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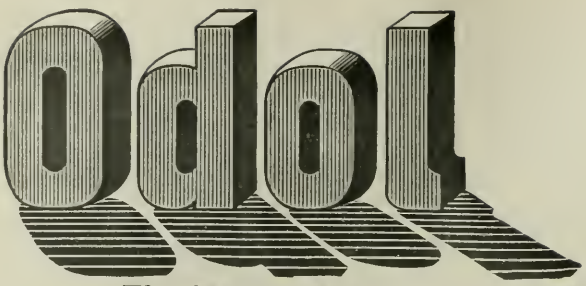

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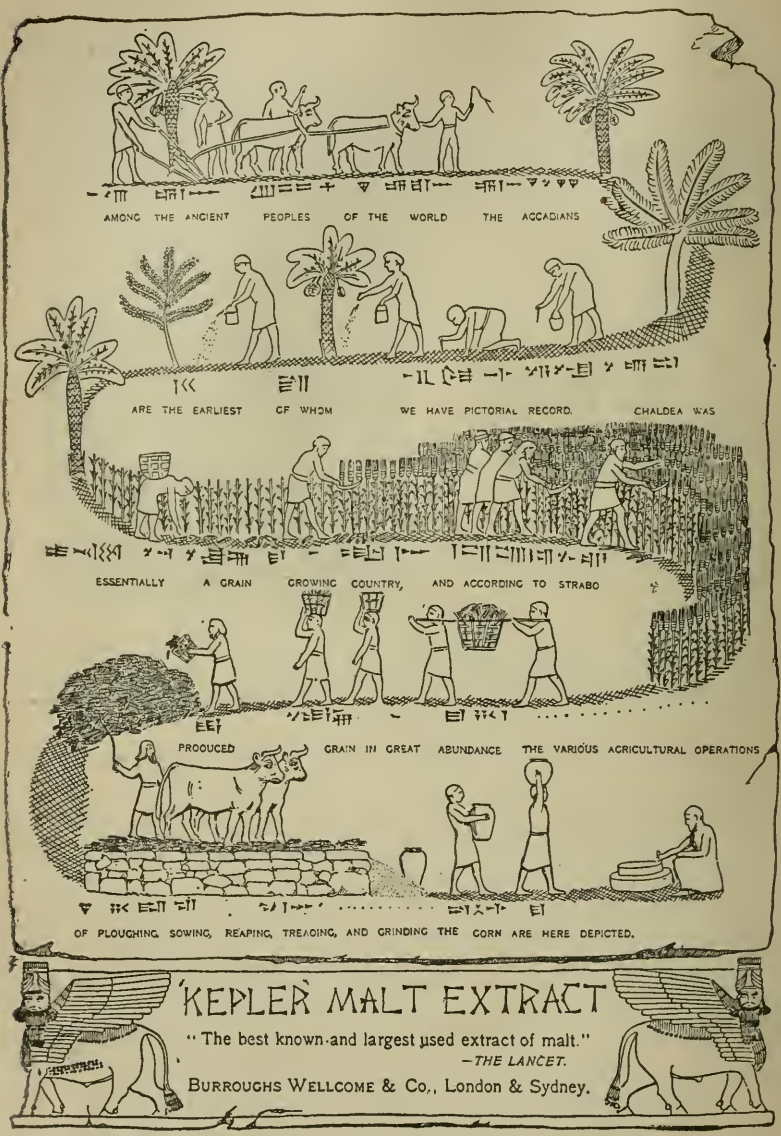
AMONG THE ANCIENT PEOPLES OF THE WORLD THE ACCADIANS
ARE THE EARLIEST OF WHOM WE HAVE PICTORIAL RECORD. CHALDEA WAS
ESSENTIALLY A GRAIN GROWING COUNTRY, AND ACCORDING TO STRABO
PRODUCED GRAIN IN GREAT ABUNDANCE. THE VARIOUS AGRICULTURAL OPERATIONS
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MEDICAL SCIENCE.

AUGUST 1, 1903.

PART I.

ORIGINAL COMMUNICATIONS.

ART. IV.—*Experiences of a Year's Trial of the Light Treatment for Lupus.*[a] By C. M. O'BRIEN, M.D., L.R.C.P.I.; Physician to the City Hospital for Diseases of the Skin.

THE physical treatment by Finsen light of lupus and certain other skin affections, hitherto incurable, and unhappily so common amongst us, has focussed so much attention of late as to warrant my submitting a short summary of the results obtained during twelve months' practical experience of the method. In order the better to enable those unacquainted with the treatment to form a correct estimate of its therapeutic value a brief description of the apparatus used by me at the City Hospital for Diseases of the Skin, and its method of application, may be of interest, together with the exhibition of a few cases with short descriptive histories, selected from some at present undergoing the treatment, as typical examples of the beneficial effects to be derived from this method when judiciously employed.

The arc lamp is of the stage lamp type, and yields a search-light equivalent to 1,500 candle power. It is worked off the city mains, the voltage of which is reduced to 45 by means of a choking coil and transformer. The lamp is a modification of the "Lortet-Genoud," or French lamp. It consists, in brief,

[a] Read before the Section of Medicine in the Royal Academy of Medicine n Ireland, on Friday, December 19, 1902.

of two carbon electrodes, supported on a frame, in front of which is a hollow, water-tight, metal shield, in which cold water circulates, and through which the light is filtered, with suppression of the heat rays of the spectrum. In a central opening of this metal jacket are rock crystal lenses, which allow the passage of the ultra-violet rays of the spectrum, almost all of which are absorbed by ordinary glass—the anterior lens acting the part of an ordinary Finsen compressor, against which the affected region is pressed by the patient's own efforts, sufficiently strong to arrest the circulation in the part. The frame carrying the carbon electrodes allows of their being brought close to, or at a distance from, the back lens, the usual working distance being about one inch. By means of a series of joints the lamp may be adjusted to any angle to suit the configuration of patient's face or any region affected.

Method of Procedure Before and After each Sitting.—Having first removed all scales and crusts the patch to be treated is then bathed with weak boric lotion, and with ether if the surface of the skin be greasy. The part prepared thus is now brought in contact with the compressor, and sufficient pressure exercised by the patient to render the patch anæmic. The subsequent reaction depends on, amongst other things, the duration of exposure and the intensity of the light employed, and with certain peculiarities of the patient not very well understood. Experience strengthens my belief that many of the shortcomings hitherto complained of in the use of the French lamp as compared with the Finsen may be obviated by lengthening the duration of each sitting, while, at the same time, increasing the intensity of the light. The usual period allowed for each sitting is fifteen minutes, and twelve ampères the intensity of light. Where the susceptibilities of patients allow I have been employing sittings of from twenty to sixty minutes, and a current of from twelve to eighteen ampères with gratifying results, the reaction in each case becoming more pronounced, and penetration to the deeper tissues more manifest.

The phenomena of reaction consist of temporary hyperæmia, redness, and vesication, with formation of crust the contents of bleb, the after treatment of which consists in the

application of lint saturated in weak boric lotion. If the latter be too painful a weak calamine or zinc ointment may be substituted till healed.

After completing each sitting the compressor is thoroughly cleansed with spirit and a piece of dry chamois. It is most essential that the current of cold water circulating in the metal jacket be continuous and free from air bubbles, otherwise the back lens is in imminent danger of cracking.

The conditions found unfavourable for the treatment, and upon which most, if not all, workers are unanimous, and upon which special stress is laid at the Finsen Institute, are :—

a. Involvement of a large extent of surface. As only a small area can be treated daily, the disease while being arrested in one place may continue to spread in another.

b. Interception of light from any cause—scar tissue, because of its density ; pigmentation ; vascularity.

c. Anything that prevents that degree of pressure necessary to render the part under treatment anæmic.

d. Certain positions—neighbourhood of the eye, mucous membranes, &c.

X-Rays as an Addition to the Finsen Light.—In ulcerating cases, where the pressure of the Finsen method could not be borne, the X-rays were employed till healing had occurred sufficiently to allow further treatment by the ultra-violet rays. In all such cases the X-rays are a most valuable addition, but more an addition to, rather than a substitute for, the Finsen light. The tube used was a Cox's record tube, excited by a ten inch coil with platinum break. Exposures of from five to ten minutes daily, or every other day, were made as circumstances demanded, the healthy skin having been protected from the influence of the rays by a paper pulp mask, the outer and inner surfaces of which were covered by a layer of lead foil.

I may mention that the cases subjected to the Finsen method at the City Hospital for Diseases of the Skin were non-selected, the installation there being the first in Ireland ; consequently in the general rush for relief lupus amongst the afflicted truly presented great variety in extent, character, and duration, which varied from three to twenty-eight years.

All had been operated on prior to undergoing this special treatment, some as often as fourteen times, while in the case of others further operative measures had been deemed inadvisable. Under the "light treatment" all the cases steadily improved; some continue to do so still, and with the latter time would appear to be the only essential necessary, while a good percentage of the earlier cases is, I am glad to say, already cured, at least in appearance.

As my observations are founded on personal experience extending over a period of comparatively short duration, my unwillingness to hazard an opinion as to the permanency of cure will be readily understood. With other workers in this field I agree that tubercular disease of the internal organs, while not influencing the healing process in the superficial lesions to any appreciable extent, materially hastens recurrence of the growth in or near the neighbourhood of the scar.

If an expression of my opinion as to permanency of cure were solicited, I should say that the Finsen light in this respect has no superior. In this belief I am strengthened by experience derived from personal examination of many cases at the Finsen Institute, Copenhagen, which were cured, and had remained so, from one to six years, and are still so, I believe. I am further of the opinion that in the treatment of circumscribed superficial lupus the Finsen light has no equal, and, when judicially applied, ranks among the most brilliant discoveries of modern medical science.

I am hopeful that with increased experience the Finsen Light will, notwithstanding its expense, become more universally adopted amongst the hospitals of this country, and that the results accruing shall serve as an incentive to every worker to still further persevere in perfecting a method of procedure which Finsen himself, while calmly counting the hours to his own release from racking pain, admits is obviously capable of improvement.

Undermentioned are details of four cases, with photographs, selected from a considerable number which I had the honour of bringing before the Medical Section of the Rayal Academy of Medicine in Ireland in December, 1902.

These cases have been discharged, but are still kept under supervision.

Case I.—A girl aged twenty-four ; unmarried ; weaver.

Family History.—Parents both alive and healthy ; four brothers and one sister, all living and healthy.

Personal History.—Always enjoyed good health, until March, 1899, when she got an attack of erysipelas, which lasted three months. In the following August, about two months after recovering from the erysipelas, her nose broke out. After attending

Case I.—Before treatment.

various doctors, she entered the Cork Union Hospital where the sore was scraped under chloroform, four times. The spread of the disease seems to have quickened into activity, for in about three months after last scraping the entire nose, and greater part of

both cheeks, became involved, as represented in the accompanying photograph, taken immediately before her admission to the light treatment of the City Hospital for Diseases of the Skin.

Condition on Admission, May 8th, 1902.—She presented an extensive yellowish dark incrustation, involving the alæ nasi, tip and bridge of nose, the prominence of both cheeks, and greater

Case I.—After treatment.

part of upper lip. On removing crusts from cheeks, a red, moist ulcerating surface was exposed, which bled easily. The nasal cavity was much encroached upon by ulceration and crust formation; on removal of the latter numerous vegetations could be seen. *Chest examination* presented nothing abnormal. *Kidney*

secretion—Acid; specific gravity 1030; no albumen or sugar. *Microscopic examination* of scrapings gave negative results.

Sittings, Finsen Light.—32 of fifteen minutes, and 24 of one hour's duration, to cheeks.

X-rays to Nose.—38 exposures of ten minutes, the cheeks having been first protected by lead foil.

Case II.—A girl aged thirty-one; unmarried; dressmaker.

Family History.—Parents both alive and healthy; four sisters, living and healthy; two brothers living, one of whom is suffering from pulmonary tuberculosis. History of tuberculosis on mother's side.

Personal History.—Except for an attack of "gastric," when fifteen years of age, she always enjoyed good health. Some time after the attack mentioned she noticed a small red pimple on left side of face, but did not attach much importance to it until eighteen months or two years later, when she consulted a doctor, who told her she had lupus, and scraped it ten or twelve times. As usual the lupus process, though delayed in its course, was not long in resuming its slow but unceasing activity, until the disease had assumed the character fairly well.

Condition on Admission to City Hospital for Diseases of the Skin, December 6th, 1901.—The disease is distributed over both cheeks, the patch on the right, the larger of the two, being about the size of a five shilling piece. There is destruction of a portion of the alæ nasi; the septum perforated and reduced to a mere stump; both nostrils shrunken; the tip of the nose thickened and infiltrated gave to the face an expressionless appearance. Connecting the patches on both cheeks is a band of ulceration, horse-shoe in shape, involving the greater part of the bridge of the nose. On removing the adherent scales with forceps from patches on cheeks the outline of ulcer became well defined, its border undermined and wavy, the floor irregular and granular. *Chest examination* presented nothing abnormal. *Kidney secretion*—Specific gravity, 1027; acid reaction; no albumen nor sugar. *Microscopic examination*—Several scrapings revealed absence of tubercle bacilli.

Sittings, Finsen Light.—141 of fifteen minutes, and 22 of an hour's duration.

Case III.—A girl aged twenty-one; unmarried; shop assistant.

Family History.—Father and mother both alive; mother

suffers from chest, and often spat blood; four sisters and one brother, all living and healthy.

Personal History.—Since a child she always suffered from swellings in the neck. About five years ago she had an abscess lanced on right cheek; the doctor while dressing it pricked the right nostril through accident with his scissors; the wound festered, tip of nose became swollen, red, and painful, associated with a sensation of pins and needles in the part. She was admitted to one of the city hospitals in December, 1898, and scraped under chloroform. Between that time and December, 1901, she had four scrapings, at intervals of about six months each, but the ulcer continued to spread. The pain, with the peculiar sensation of pins and needles, persisted.

Condition on Admission to Light Treatment.—On April 7th, 1902, she was admitted to the light treatment of the City Hospital for Diseases of the Skin, presenting a small, well-defined ulcer involving right ala nasi, and extending up right nasal cavity, the mucous membrane of which is swollen, granular, and bleeds easily. There is destruction of free border of right ala nasi. Tip of nose pale blue in colour, much swollen, and infiltrated, with nodules projecting beneath the skin. *Chest examination*—On inspection, slight impairment of movement was noticeable over apex of left lung, with impairment of percussion note over same area; deficiency of vesicular murmur on auscultation, but absence of any crepitation. *Microscopic examination*—Tubercle bacilli were found in some of the scrapings examined. *Kidney secretion*—Acid reaction; specific gravity, 1020; no albumen or sugar.

Sittings, Finsen Light.—68 of fifteen minutes, 9 of one hour's duration.

Case IV.—A boy aged thirteen.

Family History.—Except for an attack of whooping-cough, chicken-pox, and measles, he has always enjoyed good health. When he was four years of age—about six months after his having had the measles—his mother noticed a little red pimple on the left cheek, which remained unchanged in size for three or four years, when it began to increase slowly. His mother becoming uneasy brought him to one of the city hospitals, in 1895, where she was told the boy had lupus. Between 1895 and 1901 she brought him to four other hospitals, where he remained for periods ranging from three to twelve months each, during which time

he was operated on six times—thrice under chloroform, and thrice without; but as the sore never completely healed, and latterly began to spread, an operation for excising the piece was recommended, to which his parents would not submit.

Condition on Admission to Light Treatment.—On December 6th, 1901, he was admitted to the light treatment of the City

Case IV.—Before treatment.

Hospital for Diseases of the Skin with a small, nearly circular, ulcer, a little larger than a shilling, situated on left cheek, on a level with the angle of the mouth, and nearly midway between it and the lobe of the left ear. The surface of the ulcer was raised and infiltrated, its edge well-defined, and studded with typical

apple jelly nodules. *Chest examination* revealed nothing abnormal. *Microscopic examination* gave negative results. *Kidney secretion*—Acid reaction; specific gravity, 1022; no sugar or albumen.

Sittings, Finsen Light.—75 of fifteen minutes, and 9 of one hour's duration.

Case IV.—After treatment.

ART. V.—*Tuberculosis and Consumption.* By EDWARD P. CULVERWELL, M.A., Univ. Dubl.; Fellow of Trinity College, Dublin.[a]

PULMONARY consumption is a disease of all countries, whether tropical, temperate or Arctic; of all races, whether white or coloured; of all climates, whether moist or dry, hot or cold; of all levels, from that of the Dead Sea to that of the Alps. The degrees of its prevalence do indeed vary greatly with some of these factors, but they follow only one general law—the disease is less prevalent in the more sparsely populated regions.

Consumption is a disease of all historic times. More than three hundred years before Christ, the Greeks knew that in its early stages, at least, it could be cured by wholesome food and perpetual fresh air, but in later times this belief became generally discredited, and medical science in Europe made little or no progress in the cure of consumption before the latter half of the century just closed. Yet it was well known that consumption did sometimes become cured of itself, even in severe cases, because *post-mortem* examinations of persons who died from other diseases not infrequently revealed the fact that, during some earlier part of their lives, they had lost an appreciable portion of the lung, and that the disease had, nevertheless, healed of itself. The fresh air and good food treatment of consumption has been rediscovered many times. A Scotch physician used it with success in 1750; a sanatorium based upon it was opened in England in 1840, but was closed because of the active opposition it excited; for some years following 1850 Dr. Henry MacCormac, of Belfast, carried on an active crusade in its favour. But although the pioneers of the new and tolerably successful treatment of consumption were our own fellow-subjects, it was in Germany that it first gained a firm footing.

In the far more important matter of prevention, however, England for a long time easily maintained her leading position, because she was foremost in sanitary reform. Factory Acts, improvements in sanitation and in the condition and habits of the poorer classes generally, led to a very marked improvement in the public health. This was especially marked in regard to consumption, in which the annual death-rate fell from 3·8 in

[a] Mr. Culverwell has kindly acceded to the Editor's request, and allowed him to publish this admirable paper in a Medical Journal.

1840 to 1·9 in 1880. Had proper advantage been taken of Koch's discovery of the tubercle bacillus in 1882, the decrease might have been even more rapid since then, but it has in fact been slower, having fallen only to about 1·3 in 1900.

KOCH'S DISCOVERY OF THE TUBERCLE BACILLUS IN 1882.

From 1865 it had been known that consumption was a communicable disease, because in that year Villemin showed that it could be given to animals by inoculating them with the sputum, or coughed up phlegm, of a consumptive.[a] This fact, and Pasteur's general discoveries, had made it practically certain that consumption was a germ disease. Koch was the first to succeed among those who endeavoured to isolate the germ, the appearance of which, when magnified about 1,000 times, is that of a somewhat irregular pencil line, about $\frac{1}{8}$ to $\frac{1}{4}$ inch long.

The great value of Koch's discovery is that it has enabled bacteriologists to trace the life-history of the germ, and so to lay down the principles (not very difficult to carry out, if an educated public opinion helped to enforce them) by which the consumptive germ itself could be as completely banished from the country as the germ of leprosy—a disease to the former prevalence of which not only historical records bear witness but even existing names of places, such as Leopardstown, near Dublin, a corruption of Lepers' Town. But while the means which eradicated leprosy were accompanied with great hardship to the leper, modern medicine has shown that the consumptive germ can be banished, not only without undue hardship to the sufferer, but with great benefit to him.

An immediate result of Koch's discovery was that several very intractable diseases previously believed to be allied to consumption were definitely proved to be due to the same germ. They are all included under the general designation of tubercular diseases.[b]

[a] In an Italian work, published in 1520, it is stated that "the sputum and breath of a consumptive gives off a strong vapour, which causes consumption in others." It took three and a half centuries to re-discover this!

[b] This has given rise to a great deal of confusion and uncertainty in the comparison of statistics. Sometimes the death-rate from tubercular diseases as a whole is spoken of, at other times the consumptive death-rate alone. Moreover, the classification in the Registrar-General's returns has been changed from time to time, so that it is often difficult to be sure of strict accuracy in comparing statistics in different periods or countries.

When the tubercular germ lodges in the membranes of the brain, it gives rise to tubercular meningitis, commonly known as water on the brain, or watery inflammation of the brain. In the superficial glands, especially those of the neck, it develops into what is known as scrofula or king's evil. In the glands of the abdomen it produces tabes mesenterica, commonly known as consumption of the bowels—a fatal disease, chiefly incidental to childhood. It may attack the skin, producing lupus. Hip disease and many other diseases of the bones and joints are due to it; and in these and other ways it is the cause of a large proportion of the surgical operations in our hospitals.

In banishing the consumptive germ, therefore, these very serious diseases would be banished at the same time.

LIFE-HISTORY OF THE GERM.

When the germ succeeds in effecting a lodgment in the body either of two things may happen: First, it may establish and propagate itself by increasing in length, and then splitting into two, a process which, under favourable circumstances, leads to an extremely rapid increase, resulting in a correspondingly serious disease; or, second, if the part affected be in a vigorous and healthy condition, and the dose of infection be not a very large or a very virulent one, the chances are that the germ will fail to overcome the resistance of the protective cells always present in the human body, and will be very quickly killed.[a]

Even when the germ has established itself in the tissues

[a] The results of *post-mortem* examinations show that this fortunate event very frequently happens, and that there are in fact but few past middle age in whose system the tubercle germ has not at some time effected such a lodgment. This shows how vitally interested everyone is in diminishing the general liability to infection, for it is impossible to tell whether any particular person will be among those who succeed in resisting the infection or not. Not only is there the unknown factor of the natural and inherited power of resistance to tubercular infection, but he who, when in vigorous health, has successfully resisted it may succumb when run down. Moreover it has been fully established, not only that a large dose is far more effective than a small one, but that there are very different degrees of vigour in the bacilli. Animals infected with tubercle taken from the lungs of one who has died from a very severe and rapid attack of consumption show correspondingly severe and rapid symptoms, while those similarly infected from mild cases show correspondingly mild symptoms.

it sometimes happens that the protective cells form a wall enclosing the invading germs, so as to prevent their spreading. There may then be no evidence that anything is wrong except perhaps a general lowering of vitality, more or less pronounced. It is impossible to tell how long this quiescent condition may remain, and the final result may be either that the tubercle germs die and so much of the tissue becomes solidified, or that after a time the protective tissue gives way, the germs get free again, and the disease spreads as they multiply.

When the germs continue to multiply within the body, a time comes when the system must expel them, and thus the infection is spread. That is done in different ways. Sometimes a sore opens, and the bacilli are discharged with the pus. But the phlegm coughed up by the consumptive is by far the most important agent in spreading the infecting germs.

So long as the bacilli thus discharged remain surrounded by *wet* masses of phlegm or pus they are not very likely to get into the body of a healthy person whose skin is unbroken. But it is quite different with the minute droplets which are expelled as a very fine spray when a consumptive person coughs. Careful experiments have shown that, if the air is still, such droplets may remain floating about in it for half an hour or more after the cough—just as the very minute drops of water which form a fog remain suspended in the air for a long time, while the larger drops, which we call rain, fall at once. If this invisible tuberculous spray is not quickly dispersed by fresh air entering the room, it may be breathed back into the lungs of the patient, and the germs in it may, perhaps, repeat their previous history, even infecting a different part of the lung, and thus greatly adding to the intensity of the attack; or if it be breathed in a concentrated form by a healthy person, it may infect and ultimately kill him, especially if his lungs be delicate or irritated by dust, as is the case with many factory operatives.

This is one reason of the immense importance of having the freest possible ventilation around a consumptive patient, both for his own sake and that of those who attend on him. Plenty of fresh air not only lessens greatly the chance of infection by mere dilution of the infection—*i.e.*, by reducing

the number of germs entering the lungs with each inhalation, but it also helps to diminish the vitality of, and ultimately to kill, the germs themselves, and, in addition, it effects a distinctly curative effect on the lungs themselves.

As to the bacilli which do not float in the air, but are surrounded by masses of phlegm or of pus, they may ultimately get back into the body by a different process, if they are not destroyed by burning or effective disinfection before they have time to dry. For after the material in which they are enclosed has dried, it will in time get powdery, and then it will become part and parcel of the surrounding dust. When this tuberculous dust is stirred up it may get into the body by being breathed into the lungs, or being swallowed with the food, or, perhaps, through the skin, especially if it be broken, and then a similar round of changes goes on.[a] The lighter the dust, and the more easily it floats in the air, the more likely it is that the tubercle germs, which stick to the particles of dust, will be breathed into the lungs. Thus the danger from the light dust of infected linen or calico, such as pocket-handkerchiefs, pillow covers and sheets, is proportionately much greater than that from the heavier dust of floors.

As to the life of the germ in this tuberculous dust, it depends upon whether the conditions are sanitary or unsanitary. If it be freely exposed to fresh air and sunlight it dies in two or three days or less; but if allowed to remain in dark and badly-aired places, it lives on in a passive condition for long periods, ready to grow again when by any chance it again gets into the body.

Such is the history of the tubercular germ where the human body alone is concerned. Cattle and other domestic animals also suffer from tuberculous diseases, and there is a strongly-held opinion that man may get the disease from germs which have grown in diseased cattle. Especially it is believed that the milk from tuberculous cows is a very common cause of consumption of the bowels in children—a most serious and fatal disease. Although this opinion has been called in

[a] It ought to be stated that the mere *air* breathed out—not coughed out—by a consumptive does not contain tubercle germs, but any expiration, and especially a forcible one, may contain minute droplets of water with tubercle germs in them.

question, and cannot be considered as finally established, yet it would be very undesirable to relax the precautions dependent on it, so long as there is a probability of its truth.[a]

CONSUMPTION, THOUGH IT USUALLY "RUNS IN FAMILIES," IS HARDLY EVER HEREDITARY.

It is now generally recognised that the number of cases in which the tubercle germ makes its way from the parent to the offspring before birth is so small as to be insignificant compared with those infected from external sources. It is nevertheless true that the children of consumptive parents are far more often consumptive, or afflicted with other tuberculous diseases, than the children of healthy parents; for, unless very strict precautions are observed, they are exposed to more frequent and more concentrated doses of infection than those whose near relatives are not consumptive. If they were guarded from infection they would not become tuberculous.

Statistics in German orphan houses have shown that the infant children of parents who have died of consumption grow up without more liability to the disease than other children. Yet when one sees member after member of a family struck down by tuberculous disease it seems hard, at first sight, to accept the medical conviction that the disease is not hereditary. A few examples taken from the exhaustive Report of the Edinburgh Public Health Committee are more convincing than any mere theorising:—

In 1896 a young lady of twenty-six fell ill of consumptive blood-spitting. The father had died of consumption in 1879; the mother of tuberculous inflammation of the brain in 1882; two adult sisters had died of consumption in 1882 and 1884; the third sister, and four of the five brothers, fell ill of consumption, with blood-spitting, in the years 1883, 1885, 1889, and 1890. Except two children, who had died in infancy of other diseases, and one son who escaped, the parents and all the offspring were thus tuberculous. Some years ago anyone would have said that this was a case either of inherited consumption or of conspicuous inherited predisposition. But, when examined, it is found that up to 1870, when the father became infected, no member of the family had ever shown symptoms of tubercle. The grandparents on both sides were healthy; the father had four brothers and two sisters, who had between them twenty-eight children; the mother

[a] It is, however, probable that some of the money now expended when diseased cattle are condemned might be more profitably spent in other modes of combating tuberculosis.

had four sisters, with twenty-four children. *None of these relatives ever contracted tubercle disease.* When to that fact it is added that the son who did not get the disease left home in 1880, one year after the father's death, it becomes clear that the case was one of the infection of a healthy family, living together continuously as they did in one house, due to the bacilli originally generated in the father's system, he having been infected from some unknown source.

The history of a particular dwelling in a large Artisans' Dwellings Building was traced, because it seemed a nest of consumption. From 1865, when it was built, to 1874 it was inhabited by three families, all healthy. In 1874 a family, in which the mother was already consumptive, entered it. The woman died in the house, and after a year's tenancy the family left. The next occupants were a family of seven persons, all healthy. They left after a year's occupation, and at a subsequent date it was found that the father, mother, and one son died of consumption of the lungs, and a fine boy of consumption of the bowels. The next family were healthy on arrival. A child born in the house died of tuberculous inflammation of the brain; later the father died of consumption, and another child of brain inflammation, another contracted hip disease, a sister became extremely scrofulous, and the mother became consumptive. A fourth family came in after this, all healthy; the mother became consumptive, and two children died of tubercular inflammation of the brain.

During all this period the dwelling in question was never vacant; each new tenant entered while it was still warm from the previous one, and it was never painted or cleaned out. It is stated in the same large house that there were many other dwellings in which this neglect did not occur, and that there was no other similar instance of tubercular disease clinging to the apartments.

Koch and numerous other German observers have shown that the offspring of animals infected by tubercle develop as vigorously as those of healthy animals if they are shielded from infection.

Bernheim made a few very interesting observations. Here is one:—Three consumptive mothers gave birth to twins; in each case one twin was nursed in the parental house by a healthy wet nurse, and one sent elsewhere. The three twins kept at home caught the infection and died, as did also two of the healthy wet nurses. The three twins who were separated from their mothers and put in healthy surroundings developed vigorously, and remained free from tuberculosis.

SOME WAYS IN WHICH THE INFECTION IS SPREAD.

The examples just given indicate one of the most serious sources of danger—one which, though it affects the poorer classes more than others, is by no means confined to them. Cases of fatal infection are known to have occurred from occupying infected rooms in lodgings where the visitor has gone in search of health. Until the sanitary authority has powers of compulsory disinfection of such premises, or until

an effective public opinion brings sufficient pressure to bear, this terrible condition of things will constantly recur.

Another very serious danger to which the poor are exposed is that arising from the purchase, at second hand, of the furniture or clothes of a consumptive who has never known, or cared to take, any precautions. At present there is no restriction on this sale of deadly poisons. The unfortunate couple who, setting up for themselves, cannot afford to buy new furniture, must buy it in a lottery where the forfeit is a deadly disease to themselves and their children. The State, though it frames elaborate laws to regulate the sale of poisonous drugs, permits without interference this constant sale of a far more devastating organic poison. This sale will continue until either public opinion represses it—probably a distant contingency—or until the sanitary authority is in a position to exercise compulsory powers of disinfection.

The life-history of the germ shows us how the infection must be spread ; but consumption being a slow, chronic disease, with no fixed period of incubation, one cannot usually fix the date and occasion of the infection in any particular case. Indeed, in most cases of serious disease, it is probably a kind of cumulative infection—a little added from time to time until the protective action of the cells is overcome. There are, however, a number of cases on record in which the evidence seems clear enough.

A robust man of 40 inhaled a dose of tuberculous spray intended for experiments on dogs. He died from acute consumption 14 weeks afterwards. There have been other cases of artificial infection of bacteriological experimenters.

Accidental inoculation of the skin has occurred in different ways—in *post-mortem* examinations of men and animals, by the prick of a morphin syringe, by a scratch from a broken glass spittoon used by a consumptive. In most of the cases it has remained localised, and in some of them it has been cured by timely excision of the affected parts. Similar cases have occurred where a consumptive has sucked an incised wound to stop the bleeding.

The infection in regard to 10 infants attended by her was traced to a midwife far gone in consumption, whose improper habit it was to blow down the lungs of newly born infants.

The infection is, however, known to be usually due to the tuberculous dust which comes from the sputum left about by careless consumptives, or to the fine tuberculous spray which they emit when coughing. As a full supply of air necessarily scatters the germs, even if it should not have time to kill them, it is in confined or close and covered places that the infection of a healthy person by a consumptive is most likely to occur, either by breathing in the germs or swallowing them. The schoolboy, for instance, who drops his apple on the floor of a railway carriage and eats it after merely brushing off the visible dust, may some day swallow a dose of tuberculous poison and develop consumption of the bowels or of some other part.

THE PREVENTION OF TUBERCULOSIS.

The principles lie in a nutshell. The tubercle germ does not multiply outside the body (except, of course, under the very special circumstances in which bacteriologists can cultivate it), nor does it usually retain its vitality very long when expelled from the body. Every case, therefore, of human infection is a case of one human being getting into his or her body a number of bacilli which, not very long before, had been in the body of someone else, who had not taken proper precautions to prevent their infecting other people after he had himself expelled them from his own body.[a]

If, therefore, consumptive persons always coughed into something which caught the germs given off, and if all the infected material were burned or disinfected before it dried and got scattered abroad as dust, and if those having tuberculous sores took similar precautions as to the discharge from them, there would be no fresh germs scattered about to infect other people, or, indeed, to add to the intensity of the patient's own symptoms. If, in addition, all the dirty and ill-aired places which now contain germs on the wall-paper and the floor, in the dust of and sticking to the drapery of the furniture and bedding, were to be disinfected, the existing sources of infection would be destroyed. If great care were exercised

[a] This does not, of course, refer to bovine infection. But those who consider it as an effective cause rank it far below human infection in regard to the number of cases to which it gives rise.

in both ways, consumption would soon become almost as rare as leprosy.

The practical rules for carrying out the necessary precautions are given in the pamphlets of the Dublin Branch of the National Association for the Prevention of Tuberculosis, and in other leaflets dealing with the matter, and there is, or ought to be, a poster with directions hanging up in every dispensary in Ireland.[a]

The address of the Dublin Branch of the Association is The Royal College of Physicians, Kildare-street, and a request to the Secretary will secure a prompt supply of pamphlets or leaflets with directions. It may be mentioned here that the small pamphlet "Consumption and its Prevention," originally written for managers and teachers of National Schools, is far the most complete and careful of the pamphlets now issued by the Association in Dublin.

Reference ought also to be made to a remarkable and excellent little work on consumption, written specially for Roman Catholics, by Father Martin Healy, of Ballinrobe, and published by the Catholic Truth Society, price 1d.

AUXILIARY MEANS OF PREVENTION.

Accepting, however, the fact that we are still a long way from the time when consumptive persons and their attendants

[a] What has been said about the life-history of the germ may suggest some additional precautions. For instance, bearing in mind the tuberculous spray in coughing, and the dangerous character of the light dust from linen or calico, it is evident that, even where a spittoon is used, a good deal of tuberculous dust must rise from the pillow case and upper sheet, and that the shaking of them in making the bed is a matter requiring care. To reduce this danger as far as possible a removable slip of linen might be pinned over the pillow and carefully removed each morning (or for bed-ridden patients twice a day), disinfected by boiling, and put on again in its turn. As it is impossible to completely prevent tuberculous dust from rising, safety is to be sought in diluting it as far as possible with fresh air.

There is a point not always made clear in the printed directions—viz., that in disinfecting by boiling, it is not sufficient to dip the articles into boiling water. That may be better than nothing; but disinfection is not to be considered complete unless they have been boiled for from 15 to 20 minutes. It may be added that for fabrics and vessels this is the safest of all methods of disinfection in all cases of infectious diseases. Boiling from 15 to 20 minutes kills all harmful germs. When articles which may be infected with tubercular discharges are sent to the wash, they should be boiled *before* washing, otherwise the washerwoman may become infected, especially if her skin be cut or broken. Such cases have been traced.

will fully carry out those precautions which alone can prevent their being a fatal source of danger to others, there remains the other field of prevention which has been so successful in England. It has been stated that the life of the germ when expelled from the body is long in unsanitary, but short in sanitary, surroundings. Hence, even with the same number of infective germs scattered about by tuberculous people, the chance of infection is diminished as the sanitation is improved. But in addition to this numerical consequence, the resistance to infection of a person living under conditions generally healthful is far greater than that of a person living in unsanitary surroundings.

Plenty of fresh air, sunlight, wholesome (not necessarily expensive) food, and temperance in regard to alcohol—these are the conditions of life which render a person unlikely to succumb to infection of any kind, and especially to the infection of consumption. And, although no amount of overcrowding or other unsanitary conditions can create consumption, any more than they can create leprosy, yet, so long as there is any tuberculous matter about, it will find a ready prey in those who are subject to unsanitary conditions in general. There are also special trades in which the liability to consumption is very great, as those where the chemical or mechanical properties of the dust given off are injurious to the lungs, or where the stooping position is unhealthy for the chest. In these cases especial care ought to be taken to prevent tuberculous dust in the factories or workshops.

When children are growing up, all measures which tend to improve the general health and to turn them out strong men and women are most valuable in lessening the risk of subsequent tubercular disease. In especial the habit of sleeping with the window open, and those exercises which tend to develop the chest, are effective in preventing consumption. On the other hand, children who are accustomed to breathe vitiated air, and whose chests are contracted by constant sitting in cramped positions, are likely to offer but small resistance to the infection.

THE MEASURES ADVOCATED ARE REALLY EFFECTIVE.

In England the auxiliary method of general sanitation

proved wonderfully effective, reducing the annual consumptive death-rate from 38 per 10,000 in 1840 to 19 in 1880, and it is now about 13 per 10,000. It is to Germany, however, that we must look for the best evidence of the success of the modern methods, because it is in Germany that they have had the best trial, owing to the high average of education and the readiness of the people to adopt official regulations, aided, perhaps, by a national pride in German discoveries. Between 1882 and 1900 the annual death-rate per 10,000 from all the tuberculous diseases fell from 31 to 21 in Prussia, as against a fall from 24 to 19 in England in the same period.

The German Army, however, supplies the best example, on a large scale, of what may be done. From 1884 the German Army surgeons and authorities took full advantage of the bacteriological discoveries of Koch and others, and the tubercular death-rate per 10,000 fell from 6·3 in 1884 to 2·3 in 1897.

The German insurance companies have just begun to start sanatoria for the cure of consumptives as a financial speculation. They consider that to catch a man as soon as possible after consumption has declared itself, and spend money in curing him, is cheaper than to pay the lump sum insured on his premature death.

THE HOME CURE OF CONSUMPTION.

Until the bacteriologists succeed in discovering an anti-tubercular serum, the case of the consumptive who cannot go to a sanatorium for treatment will be regarded by many as almost hopeless, for no known drugs will cure him. Yet, as has been pointed out, an appreciable number of consumptive persons have become cured of themselves, even without any treatment at all. In these cases we may be assured that the sufferers led healthy out-of-door lives. There is indeed hope for the consumptive who will resolutely and in all weathers keep his window open day and night,[a] especially if he can get plenty of wholesome food, with, perhaps, cod-liver oil and any tonics or other treatment which may be prescribed by the

[a] The present treatment in the Newcastle Sanatoria Hospital for Consumption, and in many if not all others, includes putting the patient's bed in the draught between the window and the door, and keeping both open regardless of weather.

doctor. If this method be adopted in the early stages of the disease, the prospects of recovery are very encouraging.

But if the treatment be not undertaken until a late stage of the disease, the home cure becomes difficult, and in practice almost hopeless, while even in the best sanatorium the probability of recovery is but small. It is therefore of the greatest importance that in every case of a persistent cold and cough the medical attendant should be consulted as early as possible, and a sample of the sputum sent for bacteriological examination, so that if the case be one of incipient consumption, appropriate treatment may be given at once. This is the more imperative, because the common idea of the treatment for a cough is to stop the ventilation, so as to "keep out the draught," and this is the worst possible treatment for the consumptive, and the most dangerous possible for those with him.

But in consumption, not only is prevention better than cure—it is far simpler, far easier, and far more likely to be successful.

THE CONDITION OF IRELAND.

It is with a feeling of sorrow and shame that one turns from the encouraging progress of England and Germany to the unhappy retrogression of our own country. In Ireland, alone among western countries, the tuberculous death-rate has been steadily rising. In the decade, 1870 to 1880, the average death-rate per 10,000 was 26 ; in 1880–90, 27 ; and in 1890–1900, 28, which is its present figure (1903). No doubt, some portion of this may be accounted for by the fact that emigration deprives us of a number of the most vigorous adults, but in the case of consumption this argument applies least of all, for it is precisely among the young of adult years that consumption is most rife. Half the total deaths in all Ireland of those between 15 and 35 years of age are caused by consumption, and much more than half by all the tuberculous diseases together. Half of all the deaths between 15 and 45 are caused by the tuberculous diseases. Thus the death-rate is no guide at all to the misery due to our neglect of precautions against this terrible disease. For it is the adult, the wage-earner, the man who has incurred the responsi-

bilities of life, the man to whom a family looks for support, or the mother on whose care the welfare of young children depends, who are its most frequent victims. These are taken, and those dependent on them are too often left without the means of support.

WHAT PRACTICAL MEASURES CAN BE TAKEN?

The first thing is to create, especially among the poorer classes, a healthy public opinion.[a] The experts may know how thousands of lives may be saved, but it is useless to hope that the sick will adopt any precautions much in advance of what the public opinion of their neighbours approves or demands.

The general Public Health Acts, although not specially directed towards consumption, confer on the Local Authorities all over the Kingdom very useful powers, which they seldom exercise. If the value of these powers were appreciated by the people—if the Public Health Authority were looked on as a beneficent agency, whose assistance was to be welcomed, and if, on the other hand, that authority took the full advantage of its opportunites—the result would be of incalculable benefit to the consumptive, to those living with him, and to the community generally. But we are very far from this happy state. Even in the suburbs of Dublin some of the Local Authorities have as yet (1903) failed to make the very necessary provision of free disinfection—necessary, because it is almost impossible for the poor to carry it out for themselves, while even the well-to-do are often just as helpless. And, on the other hand, even where free disinfection is provided, as in Dublin City, the poorer people are so ignorant of its efficiency, or so much afraid of the trouble it involves and of the effect on their neighbours, that they generally

[a] Even educated British public opinion has been strangely backward. Upwards of twenty years has elapsed since Koch's discovery, yet Parliament has taken no steps whatever to secure that it should be utilised, although the preventable loss of life in each year in Great Britain and Ireland far exceeds that of the whole three years of the South African war. It is, too, a striking contrast, that while great efforts are rightly being made to discover the cause and the means of prevention of cancer, and, if possible, to find a cure for it, the knowledge ready to hand in regard to the far more devastating disease of consumption is still, to a large extent, unutilised.

refuse it, even when offered.[a] They will attend wakes, sleep, dwell, or visit, in places teeming with infection, without a moment's misgiving, but as soon as ever the officer has been to disinfect a house or room, they shun it as if he had brought the plague instead of banishing it. Consequently, there are many, even among the more intelligent, who will keep the thing quiet, and run all risks, rather than have the place openly disinfected and be then shunned by their neighbours.

In regard to such matters as these, ministers of religion, district visitors, employers of labour, and many others, can do much to impress on those with whom they are brought in contact the two points of paramount importance—

1st. The necessity that the consumptive and those connected with him shall take sensible precautions.

2nd. The foolishness of being afraid of the disease after the proper precautions have been taken.[b]

And, on the other hand, it is equally necessary to bring pressure to bear on the Representatives on the County Councils to provide measures of free disinfection in a form which will be at once effective and acceptable to the people. If the articles disinfected are injured or seriously decreased in value the poor will not co-operate with the sanitary authority.

The County Councils also possess other powers of a very wide character. They can, for instance, make spitting in public places a punishable offence, a power which the County Council of Glamorganshire has already exercised in regard to *covered* places. Such regulations are of the greatest value if the public generally assist in seeing that they are carried out. They are worse than useless if public opinion will not tolerate their enforcement.

They also have power to establish, as a charge on the rates, sanatoria for the reception of consumptive patients, at all events in cases where the patients are a danger to the public health.

[a] In Dublin when a certificate of a death from consumption reaches the Registrar-General of Deaths, he sends a notice to the Public Health Department, which sends an officer to explain the advantages of disinfection, and to offer to do it without charge. It is stated (1902) that in three-fourths of these cases the offer is refused.

[b] The nurses in a consumptive hospital hardly ever get consumption because proper precautions are taken.

They could also, under their present powers, undertake, free of charge, the bacteriological examination of patients' sputum when sent to them by the medical attendant. This is certainly a power which they ought to exercise, and it might be so utilised as to form the basis of a system of voluntary notification if compulsory notification be not adopted. The doctor, when sending the sputum for examination, might either request the Public Health Authority to send their official to explain and assist in the necessary measures of precaution, if the case turned out to be one of consumption, or he might say that he preferred to be himself responsible for seeing that those measures were carried out.

No expenditure of public money is so necessary as this—a small amount would establish and maintain a bacteriological laboratory, and the benefit would be immense and immediate. Not even in the City of Dublin has such a laboratory been provided by the Public Health Authority (1903).

No disease can be efficiently dealt with unless the Public Health Authority can intervene to see that proper precautions are taken when the medical attendant is not himself prepared to undertake that responsibility. This it can do only if it is informed of the cases of disease as they occur. Hence, either there must be an effective public opinion in favour of seeking the assistance of that authority, or else there must be a system of compulsory notification. The present law respecting notification was enacted solely with a view to acute infectious fevers, such as smallpox or scarlatina. If consumption were made a notifiable disease, some hold that every consumptive would be liable to severe penalties if he appeared in public, and wage-earning would be stopped if the powers were enforced. Thus, were the Act in full operation, provision would have to be made for the forty thousand tuberculous people in Ireland and those dependent on them, which is at present out of the question. It is urged, however, that the powers might nevertheless be entrusted to the Public Health Authority, in the assurance that they would not be unreasonably used. But the Local Government Board has so far steadily refused to allow consumption to be made a notifiable disease under the present Act.

There are, however, wide differences of opinion, not only as to the advisableness of putting the present Act into operation,

but even as to any system of compulsory notification, and it is not consistent with the object of this paper to take sides on any question where well-informed opinion is still undecided. But there can hardly be any difference of opinion as to the necessity of giving the Public Health Authority powers of compulsory disinfection where its assistance is invoked by anyone interested. And it is clear that if no system of compulsory notification be adopted, it is all the more necessary that a strong public opinion shall be brought to bear, so that the medical attendant shall have the full sanction and approval of the public in using all his influence to insist on proper measures of precaution and of disinfection.

Whatever differences there may be as to the most suitable administrative measures, there is no doubt of the great interest recently awakened throughout the country, or that the prospect of educating the people on the matter is now more hopeful than ever. The National Board of Education is assisting by directing the attention of all the National School teachers to the matter, and in many ways public attention is being directed to this, the most important of all sanitary reforms.

Economy, self-preservation, and Christian sympathy, all supply the most imperative reasons for reform—reform which has been delayed far too long already, and must be further delayed in proportion as individual effort does not assist.

Economy—because in Ireland alone upwards of 12,000 people die annually of tuberculosis, most of them in the early prime of life. Assuming that on an average each of these is worth only 5s. a week to the community, and would live for ten years longer if there were no tubercular germ in Ireland, then each death is a loss of over £130, and the total loss is 12,000 times this, or £1,560,000 a year.

Self-preservation—because the chance of dying between 25 and 35 (not to speak of other ages) would be almost halved if the consumptive germ were banished from Ireland.

Christian sympathy—because we ought not to be callous to the misery and sorrow which must each year accompany the deaths of 12,000 people, for the most part with others dependent on them or looking to them for assistance in the near future, especially when each death usually means a sad, long, and hopeless illness, too often involving other members of the family in the same unhappy fate.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Nothnagel's Encyclopedia of Practical Medicine. English Edition. Vol. V. *Diseases of the Liver, Pancreas, and Suprarenal Capsules.* By LEOPOLD OSER, M.D., Professor of Internal Medicine, University of Vienna; HEINRICH QUINCKE, M.D., Professor of the Practice of Medicine, University of Kiel; EDMUND NEUSSER, M.D., Professor of Internal Medicine, University of Vienna; G. HOPPE-SEYLER, M.D., Professor of Internal Medicine, University of Kiel. Edited, with Additions, by REGINALD H. FITZ, M.D., Hersey Professor of the Theory and Practice of Physic, Harvard University; and FREDERICK A. PACKARD, M.D., late Physician to the Pennsylvania Hospital, and to the Children's Hospital, Philadelphia. 8vo. Pp. 918. Vol. VI. *Diseases of the Stomach.* By FRANZ RIEGEL, Professor of Clinical Medicine in the University of Giessen. Edited, with Additions, by CHARLES G. STOCKTON, M.D., Professor of Medicine in the University of Buffalo. 8vo. Pp. 835. Authorised Translation from the German, under the Editorial Supervision of ALFRED STENGEL, M.D., Professor of Clinical Medicine in the University of Pennsylvania. 1903. Philadelphia, New York, London: W. B. Saunders and Company.

Two further instalments of Nothnagel's Encyclopædia of Practical Medicine have appeared simultaneously. The ponderous tomes which lie before us are occupied with diseases of the stomach, liver, pancreas, and suprarenal capsules. As we gaze upon them the thought arises: Is the advantage which it is possible for a busy physician to derive from a close study of such exhaustive monographs commensurate with the toil—mental, intellectual, and bodily—which has been spent upon their production? Treatises so full in detail must always find their greatest usefulness in being works of

reference. To play their part as such they must be furnished with a full table of contents, a copious index, and an international bibliography. The present volumes fulfil these conditions, and are so far, therefore, successful.

In glancing through the bibliographical references one is struck by their essentially German character. Comparatively few British, American, French, Italian, and Belgian entries appear—*rari natantes in gurgite vasto.* Of course we know how untiring in research and in literature is the German School of Medicine, yet we cannot think that full justice has been done to workers in the other countries we have named in this matter of bibliography. Oser's article on pancreatic diseases may, perhaps, be exempted from this criticism.

The fifth volume of the English—or shall we say "American?"—edition of Nothnagel's Practice of Medicine is composed of three sections. Each constitutes a monograph. The first, on Diseases of the Pancreas, by Dr. L. Oser, of Vienna; the second, on Diseases of the Suprarenal Capsules, by Dr. E. Neusser, of the same famous seat of medical learning and research; the third and longest, on Diseases of the Liver, by Dr. H. Quincke and Dr. G. Hoppe-Seyler, both of the University of Kiel. The editor of the English translation—Dr. Reginald H. Fitz, of Harvard University—expresses his indebtedness to the recent treatises on the pancreas by Mayo Robson and Körte. He also points out that the views put forward by Opie and others, as to the possible bearing of the islands of Langerhans on the function and diseases of the pancreas, did not appear till after the German edition of Oser's work had been published. The additions made to the section on diseases of the suprarenal capsules, which seem especially noteworthy to Dr. Fitz, are the investigations on the active principles of suprarenal extract, by Abel and Crawford, von Fürth, Takamine, and others, and the discoveries concerning the therapeutic properties of suprarenal extract.

A shadow hangs over the section on Diseases of the Liver, for the untimely death of the editor, Dr. Frederick Packard, took place while the work was going through the press. In the "Editor's Preface," Dr. Alfred Stengel, the editor-in-

chief of the English version of Nothnagel's Encyclopædia, pays a fitting and sympathetic tribute to the memory of his colleague. The monograph itself is, of course, magnificent; yet we confess that it does not appeal to us like Murchison's "Clinical Lectures on Diseases of the Liver"—a work which may well be termed κτῆμα ἐς ἀεὶ.

Professor Riegel's great work is a masterpiece. It is divided into two parts. The first is concerned with the general diagnosis and treatment of diseases of the stomach; the second deals with the special diagnosis and treatment of those diseases. The general diagnosis is shown to be based on three things—the *anamnesis*, or history of the case, physical methods of examination of the stomach, and examination—macroscopic, chemical, and microscopic—of the stomach contents. The general treatment falls under the headings—diet, drugs (including the digestive ferments and mineral waters), physical methods, and surgical measures.

The section on diet (pages 177–222) is very full. The author in sequence discusses the quality of the diet according to the different diseases of the stomach; the quantity of food which should be taken, including a summary of the most important articles of diet; general rules for stomach cases before and after eating; methods of feeding the patient, and at the same time partially or completely sparing the stomach; artificial foods, including peptones and albumose; rectal alimentation and the introduction of fluids by the rectum; subcutaneous feeding, and the employment of alcohol, tea, coffee, and tobacco in stomach affections. At page 196 the editor adds a paragraph to the effect that, according to American experience, veal is not so readily digested as beef. This observation we can substantiate by our own experience. We also agree with Dr. Stockton when he adds: "While veal is very indigestible with many, it occasionally is well tolerated and with some appears to be easily digested." To our mind the question is largely one of cooking. In a footnote on page 198 the curious expression occurs—"Procentic Composition of the Food of Man." Surely the German phrase "procentische Zusammensetzung" should be rendered "percentage composition"? In the list of foods suitable for a feeble digestion no mention is made of eggwater (the

eau albumineuse of the French), which is certainly valuable and easily borne by the most delicate stomach.

Riegel's views on the employment of alcohol, coffee, and tea in diseases of the stomach are sound. They may be summed up in his own words as follows :—" In general we may say that in diseases of the stomach we can get along very well without alcohol. It will never happen that the disease itself calls for the administration of coffee or tea "—" coffee and tea possess no nutritive value, and when employed at all they are, as a rule, given for their stimulating effect." The author speaks highly of hydrochloric acid given before meals as a stomachic, but he thinks the efficacy of the drug as in sub-acidity of the stomach contents and as a gastric disinfectant is not established. He also discredits condurango as a remedy for carcinoma gastri, although he looks upon the drug as possessing much value as a stomachic. The bark has been employed for many years among the aborigines of Ecuador as a popular remedy for carcinoma and other chronic gastric affections. Dr. Riegel refrains from expressing any opinion as to the value of another very popular stomachic that has been introduced of late years—namely, orexin (*i.e.*, the appetiser), a synthetic product which rejoices in the scientific name of " phenyldihydrochinazolin hydrochlorate."

The digestive ferments are dismissed in some four pages. The administration of pepsin in cases of stomach disease is rarely indicated. Papain and papayotin are very expensive. Pancreatin seems efficient, and has been employed in many cases with good results. Its administration is particularly indicated in those cases in which the secretion of gastric juice is more or less reduced. Riegel has had no experience of ptyalin in cases of hyperacidity and hypersecretion. Saliva is not absent in these cases, but its action is interfered with by the excessive acidity of the stomach contents. The author wisely adds : " Cases of this kind should, at all events, be advised to chew their food carefully and for a long time " (page 243).

Speaking of alkalis in stomach affections, Dr. Riegel has never seen any untoward effects from their prolonged administration. They should never be administered before or during a meal, but always a short time after a meal—in each instance

a little before the time at which the distress of the patient is usually greatest. He is in the habit of administering a mixture of bicarbonate of sodium and "magnesia usta" (magnesium oxide) in equal parts. In private practice a little of the ammonio-magnesian phosphate may be added. The fact that this salt is more expensive is not so important in private practice. The dose of this mixture of alkaline salts varies in each case according to the degree of hyperacidity and the amount of food eaten at each meal. As a rule, half to one teaspoonful is sufficient. In some cases it is well to repeat the same dose, or half this dose, after a little time. The author never employs alkalis in order to stimulate gastric secretion. He mentions with approval the substitution of Carlsbad salts for alkalis and in the same diseases, and recommends Wolff's formula for an artificial Carlsbad salt—namely, 30 grammes of sodium sulphate, 5 gm. of potassium sulphate, 30 gm. of sodium chloride, 25 gm. of sodium carbonate, and 10 gm. of the biborate of sodium. This differs somewhat from the "Sal Carolinum factitium" of the German and Japanese pharmacopœias, the composition of which, as given by Martindale and Westcott is—dried sodium sulphate, 44; potassium sulphate, 2; sodium chloride, 18; sodium bicarbonate, 36—all in fine powder. Of this the dose is from 20 to 60 grains in warm water, while 53 grains in one pint of water is similar to Carlsbad water.

The administration of Carlsbad and other similar waters is recommended under the following conditions:—

1. In round gastric ulcer, provided the stomach is not too atonic.

2. In so-called acid catarrh of the stomach, and also in all forms of dyspepsia with pronounced hyperacidity, provided the dyspepsia is not of a purely nervous character.

3. In dyspepsia in which the peptic power of the stomach is only relatively reduced. In cases of this kind the administration of Carlsbad waters should be carefully supervised.

4. In mild cases of atony.

The employment of these waters is contra-indicated in carcinoma, whether complicated by atony or not; in all severe cases of atony and ectasy; and in all cases of dyspepsia in which the production of hydrochloric acid is much reduced.

A Carlsbad cure is not of great value in the majority of cases of nervous dyspepsia.

The physical methods of treatment described by the author are lavage of the stomach; the stomach-douche (die innere Magendusche), suggested by Malbranc in 1878, and first employed by Kussmaul in a case of severe gastralgia; massage; l ectric treatment; hydrotherapy and orthopædics; and finally, surgical interference. On this last Dr. Riegel expresses himself dogmatically: "In order to proceed surgically a precise diagnosis must be made." "Diseases of the stomach are treated by surgical methods, either in order to bring about a radical cure of some disease of the organ that cannot be cured in any other way, or in order to remove certain dangerous or very troublesome symptoms. It is self-evident that operative interference for either purpose is permissible only in those cases where internal therapy is unable to accomplish anything" (page 275).

Space does not permit us to notice at length the second part of this fine work. Suffice it to say that the author has brought to bear upon his subject—the special diagnosis and treatment of diseases of the stomach—a vast store of ripe clinical experience and literary research.

The Diseases of Infancy and Childhood: for the Use of Students and Practitioners of Medicine. By L. Emmett Holt, M.D., LL.D.; Professor of Diseases of Children, Columbia University, New York, &c., &c. With 225 Illustrations. Second Edition. London: Henry Kimpton. 1903.

This well-known work on diseases of children issues now in a much-improved form. Dr. Holt has bestowed a great amount of labour on the production of this edition, and the result is a most valuable treatise on the subject. It stands deservedly high as a comprehensive text-book, and holds its own place secure amongst its numerous competitors in this branch of medicine. Beyond the undoubted authority of Professor Holt this volume has special interests. One of its chief features is the prominence with which pathology is put before the reader, and thus the surest foundation is built

beneath Dr. Holt's work. Another element we admire is the original work it contains. There is far less copied from other works in this volume than one usually sees. These two points deserve particular mention, and commend the book as an interesting and scientific portraiture of diseases of children. In a volume of this size one can, of course, find some faults, but they are not many. We can recommend the volume as a sound treatise on these diseases.

Reports from the Laboratory of the Royal College of Physicians, Edinburgh. Edited by Sir John Batty Tuke, M.D., and D. Noël Paton, M.D. Vol. VIII. Edinburgh: Oliver & Boyd. 1903.

This volume, the largest and probably the most valuable of the series to which it belongs, contains papers giving the results of work done in the laboratory, chiefly in 1900 and 1901. There are a few papers from 1899, while one important paper is not included. The quantity and quality of the works here published reflect the highest credit on all concerned, and amply justify the statement of the editors "that the laboratory continues to fulfil the purpose for which it was instituted, and that those engaged in medical research find in it facilities for scientific work."

The papers included in this volume are twenty-four in number—fourteen physiological, nine pathological, and one hygienic. Most of them have been already published in different journals, and are here given *in extenso*, while a few are given only in abstract. Our space will not permit us even to name all these papers, but we may say that the standard of excellence which they reach is very high, and that the volume is a noble record of work.

Perhaps the thing which first strikes the reader in looking over the table of contents is the large number of the papers on metabolism which are here presented.

The first is "A Study of the Diet of the Labouring Classes in Edinburgh," carried out under the auspices of the Town Council of the City of Edinburgh, by D. Noël Paton, J. Crawfurd Dunlop, and Elsie M. Inglis. This most valuable and laborious work, which runs to 104 pages, gives a rather

depressing view of the condition of the Edinburgh poor, their food contrasting unfavourably as a source of energy, and still more unfavourably as a source of proteid, with the diet of the inmates of poor-houses, prisons, and pauper lunatic asylums. And, although much of what was elicited was known before, it is true that "knowledge based upon mere opinion, and not upon actual facts, is no true knowledge; and we are strongly of opinion that before any suggestions of remedial measures are advanced, definite information and evidence must be forthcoming."

From their own experiments, and those of other writers, the authors conclude that an average man of good muscular vigour requires daily :—

		Calories.
Proteids -	130 grams, yielding in the body	533
Carbohydrates	500 ,, ,, ,,	2,050
Fats -	100 ,, ,, ,,	930
		3,513

"Taking Atwater's recent figures of the proportion of a mixed diet, digested, absorbed and made available, this would yield about 3,300 calories of energy." The proteids must not fall much below 130 grams, but the proportion of fats to carbohydrates may be varied to a certain extent.

For the purpose of this research the labouring classes are divided into three groups :—(1) The well-to-do, who are free of anxiety about the necessaries of life; (2) those with permanent employment, earning about 22 shillings per week; and (3) those not in permanent employment, and earning less than 20 shillings a week.

The household economy of several examples of each of these classes is studied, and the quantity, cost, and nutritive value of their dietary determined. In some cases good management was apparent, but in too many cases great ignorance and carelessness were manifest.

To improve the dietary of the labouring classes the following principles should be instilled into them :—

That a diet of tea and bread and butter is bad. This is called the lazy diet, as it does not call for any effort of cooking. This diet, deficient in proteids, can be corrected expensively

by addition of eggs or meat, or cheaply by free use of oatmeal and milk, or of peas and beans, but this will involve labour spent on the cooking of the food. A fairly good diet can be procured for four pence a day, while the average price paid is about seven pence. It is suggested that tables should be prepared and circulated, giving instructions as to the nutritive value as flesh-formers and work-producers of the food, which can be got for a penny. The success which would attend the establishment of cooking shops is considered doubtful.

Dr. James Crawfurd Dunlop contributes a valuable paper on "The Food Requirements of Varying Labour," founded on his observations of prison dietaries. He concludes that all average men doing the same amount of work require the same amount of food, that individual variation is very small, and that there does exist a common food requirement. But it is impossible to fix a proper diet for labour from standards, because we cannot estimate the severity of the labour. The only way of satisfactorily adjusting diets is by direct observation.

Dr. Walter Chapman's work "On the Placenta of the Rabbit, with Special Reference to the Presence of Glycogen, Fat and Iron," is something more than a paper. It comprises 261 pages of letterpress, and is illustrated by 186 beautifully executed figures, many of them in colours. It is a most valuable contribution to placental anatomy and physiology.

Drs. Ford Robertson and J. S. Fowler give, as the result of the experiments of the late Dr. Elder, that "the whole of the intracranial dura mater takes part in the conveyance of the *cerebro-spinal fluid* to the general circulation, and no special importance can be ascribed to direct passage through the walls of the pial veins and dural sinuses, except that which takes place through the latter where they are penetrated by the Pacchionian granulations."

Dr. Noël Paton, from "Observations on the Metabolism in the Dog before and after Removal of the Spleen," finds that in the latter condition there is a more rapid excretion of water after a meal, probably indicating a more rapid absorption, but that otherwise there is no essential difference in the course or nature of the metabolism, either during fasting or after feeding with the ordinary proteids of flesh, with vegetable

food, such as oatmeal, or with food rich in nucleins, such as thymus gland.

Dr. Paton, with Drs. Gulland and Fowler, finds, further, that in the spleenless dog, cat, or rabbit there is no diminution in the number of blood corpuscles; that after hæmorrhage or hæmolysis the normal number of corpuscles is regained as rapidly as before removal of the spleen; that injection of extract of spleen does not increase the number of erythrocytes; and that probably in these animals the spleen has no important action as a blood-forming organ.

Dr. F. D. Boyd contributes the results of experiments on the function of the medulla of the kidney. He finds that when the entire medulla of the rabbit's kidney is removed, the operation leads to such disturbances of circulation as to cause necrosis and loss of function of the remaining cortical part of the organ; that Ribbert's experiments, which were supposed to support Ludwig's theory of the secretion of urine, are unreliable; and that partial excision of the medulla is not followed by increased secretion of urine, or by increased metabolism—so that excision of the medulla differs from excision of a part of the whole kidney, as in the observations of Bradford.

Dr. R. J. A. Berry, from an extensive study of the comparative anatomy of the vermiform appendix in a large series of animals, concludes—"(1) That lymphoid tissue is the characteristic feature of the cæcal apex. The vermiform appendix of man is, therefore, represented in the vertebrate kingdom by a mass of lymphoid tissue, situated most frequently at the cæcal apex. (2) As the vertebral scale is ascended, this lymphoid tissue tends to be collected together into a specially differentiated portion of the intestinal canal—the vermiform appendix. (3) The vermiform appendix of man is not, therefore, a vestigial structure; on the contrary, it is a specialised part of the alimentary canal."

Mr. H. Rainy concludes, from an experimental research made on rabbits, that diphtheritic paralysis is associated not only with change in the peripheral nerves, but also with alterations in the spinal cord, which are always found *post mortem* when paralysis was observed during life. The changes in the cord are chiefly cellular, but may be associated

with vascular alterations. They consist in chromatolysis to a moderate degree, with increased staining capacity of the achromatic substance for acid stains, and vacuolation of the cell protoplasm. The cell change is probably antecedent to the nerve change.

In an interesting paper Dr. E. Scott Carmichael records the results of injection of micro-organisms into the portal system. Typhoid bacilli, *B. coli communis* and streptococci were injected, and, except in one case, where the infection may well have occurred *post mortem*, the bile was found to be sterile. Hence, the infection of bile from the intestinal tract probably does not take place through the portal vein and liver. Sherrington has shown that even when the general blood circulation is teeming with micro-organisms none can pass through normal hepatic tissue. Infection through the general blood stream to the cystic artery is not likely to occur. There is thus only one path open for infection of the gall-bladder—namely, by direct extension from the intestinal tract itself.

The great importance of *Bacillus coli communis* in the causation of cystitis is insisted on by Dr. Kenneth M. Douglas.

Many other papers, which we have not had space even to name, but which are all of interest and value, are comprised in the volume.

A Manual of Surgical Treatment. By W. Watson Cheyne, C.B., M.B., F.R.C.S., F.R.S.; Professor of Clinical Surgery in King's College, London; Senior Surgeon to King's College Hospital and the Children's Hospital, Paddington Green, &c.; and F. F. Burghard, M.D. and M.S. (Lond.), F.R.C.S.; Teacher of Operative Surgery in King's College, London; Surgeon to King's Hospital and the Children's Hospital, Paddington Green, &c. Part VI. Section II. London and Bombay: Longmans, Green & Co. 1903. Pp. 559.

The present volume completes this admirable series, and well maintains the excellence our perusal of its predecessors led us to expect. It is devoted to the surgical affections of the rectum and anus; the pancreas, liver, gall-bladder, and

bile-ducts; spleen; the genito-urinary organs; the breast and thorax.

In a work of such excellence the reviewer's task is a light one, as the points necessitating criticism are but few indeed.

In the chapter on the operative treatment of cancer of the rectum we find the method of treatment described for extensive cancer, or cancer situated high up, is that of excision partly or entirely through the abdomen, the proximal end of the cut bowel being in either case fixed in the inguinal region as a permanent colostomy opening.

Quénu's method is fully described, but no mention is made of the method recently advocated by Sir Charles B. Ball, of this city, in which the combined method is made use of in certain cases, but the meso-rectum is divided obliquely below and parallel to the superior hæmorrhoidal artery, and the upper cut end of the bowel is brought down and fixed to the anal margin subsequent to the removal of the lower diseased segment.

The chapter devoted to the surgical affections of the pancreas is short, but well up-to-date.

In the section on the gall-bladder and bile-ducts, in summing up the relative merits of the operations as applied to conditions in which stones are present in a moderately healthy gall-bladder, the authors recommend cholecystectomy, provided the adhesions are slight and the patient's condition warrants it. We doubt whether the majority of surgeons will agree with this recommendation, as cholecystostomy, which is a much less severe procedure, gives such excellent results.

In connection with movable kidney, the advice is given that, so long as the patient does not know that the kidney is movable and the condition is only discovered by the surgeon when examining for something else, "he should never inform her if he discovers it accidentally." Of course, the authors do not mean this advice to be always literally followed. If it was always accurately followed by the majority of surgeons we fear their professional reputations would suffer at the hands of those who did not follow it or know of it.

We strongly endorse the authors' remarks in paragraph II., page 498, in connection with the removal of the cervical glands as a part of the radical operation for mammary cancer.

Similarly, we think they sum up correctly the value of oöphorectomy as applied to the treatment of this condition.

The volume before us, which is amply illustrated, completes a work which, in our opinion, has no equal in the English language for soundness and thoroughness in connection with the treatment of surgical affections. It fills a long-felt want, and we have no doubt will be studied with benefit by every surgeon desirous of making himself acquainted with thoroughly sound doctrines of surgical treatment. We heartily congratulate the authors on their successful completion of a work of which British surgery may well feel proud.

The Surgical Diseases of the Genito-Urinary Organs. By E. L. Keyes, A.M., M.D., LL.D.; Consulting Surgeon to the Bellevue and the Skin and Cancer Hospitals; Surgeon to St. Elizabeth Hospital; formerly Professor of Genito-Urinary Surgery, Syphilology, and Dermatology at the Bellevue Hospital Medical College, &c.; and E. L. Keyes, jun., A.B., M.D., Ph.D.; Lecturer on Genito-Urinary Surgery, New York Polyclinic Medical School and Hospital; Surgeon to the Out-Patient Department, St. Vincent's Hospital; Physician to the Venereal Clinic, Out-Patient Department of the House of Relief of the New York Hospital, &c. A Revision of Van Buren and Keyes's Text-book. With 174 Illustrations in the Text and 10 Plates, eight of which are coloured. New York and London: D. Appleton & Company. 1903. Pp. 827.

Very considerable changes have been made in the subject-matter of this book since its first appearance in 1867. Syphilis has been eliminated, and rightly too, as it is, as the authors state, a genital disease only in its method of inception, not at all in manner of expression. Gonorrhœa is, however, fully dealt with, even to its widespread complications and sequelæ—a procedure which is essential in order to make the study of the subject complete. Over 110 pages are devoted to it. The authors draw a careful distinction between the terms "urethral chill" and "urinary fever."

"Urethral chill" includes three conditions, any one of which may prove fatal:—

I. Shock to the whole nervous system.
II. Shock to the kidneys, inducing uræmia.
III. Toxæmia, septicæmia, or pyæmia.

"The first two conditions deserve the title of urethral shock or chill, while the last is urinary fever or chill, properly speaking, since the toxic elements are derived from the urine."

In speaking of retrograde catheterisation in connection with the treatment of stricture of the urethra, after describing the procedure and the indications for its performance, the following sentence, which is an excellent example of American "boasting," occurs :—"Most urinary surgeons in this country pride themselves never to have performed retrograde catheterisation, but in Europe, where external urethrotomy is less often done, retrograde catheterisation seems to be resorted to quite frequently."

A chapter is devoted to the surgical treatment of hypertrophy of the prostate—a subject still engrossing the attention of surgeons. The authors favour the suprapubic in preference to the perineal route. The majority of their surgical confrères in America favour the perineal. Our own experience leads us to endorse the authors' recommendation. Surely it is useless now to write about ligature of the internal iliac artery as a radical method of treating hypertrophy of the prostate—a line of treatment that would be undertaken only by a lunatic. In justice to the authors, they merely mentioned the procedure, but do not recommend it; but to mention it at all, unless to strongly condemn it, is, in our opinion, wrong. Similarly, we think it a mistake to mention "injection" as a line of treatment for varicocele. True, only five lines are devoted to it, but in revising a book this method, which is now relegated to antiquity, should surely be deleted and left to oblivion.

Subcutaneous ligature is the operation of choice of the authors for varicocele, while the injection method of treating hydrocele of the tunica vaginalis is the procedure recommended by them. Both methods are very fully described, but the open methods of treating these conditions have but a few lines devoted to their description—certainly not more than one-sixth to one-third of the space devoted to the methods recommended is devoted to these radical procedures by the

authors. Most British surgeons would prefer to see this order reversed.

The word "incised," seven lines from the top of page 41, should read "excised."

On the whole, we can confidently recommend the book as sound and worthy of perusal. The illustrations are all that can be desired.

Saunders' Year-Book of Medicine and Surgery: being a Yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from Journals, Monographs, and Text-books of the leading Authors and Investigators. Under the general editorial charge of GEORGE M. GOULD, M.D. Surgery. London and Philadelphia: W. B. Saunders & Co. 1903. Pp. 671.

THIS work is now so well known that it is merely sufficient for us to mention that the volume for this year has come to hand, and is fully equal to those issued in preceding years. The same excellence is maintained. There is not only an epitome of everything that has appeared in print on surgery generally, or its special branches, during the past year worth recording, but an editorial criticism made by one of the editor's capable collaborators is often added.

The Development of the Human Body: A Manual of Human Embryology. By J. PLAYFAIR M'MURRICH, A.M., Ph.D. London: Rebman. 1903. Pp. 527.

IN his preface the author rightly observes that "the great key to the significance of the structure and relation of organs is their development." In fact it is only by a constant reference to the study of embryology that anatomy becomes a science, and ceases to be a mere collection of disjointed facts. Therefore we welcome heartily the appearance of a really good book on human embryology, adapted for the use not only of those who are professional embryologists, but of students and those of riper age who desire to know the present condition of this rapidly advancing branch of knowledge. Of course, such a work must be mainly a compilation, but a

compilation by a master who knows how to arrange his facts and give to each its due relative importance is of great value, as everyone will admit who reads the book before us. Among its many merits we may point out the following. It is concise, for although it runs to upwards of five hundred pages, the print is large and the 270 well-chosen and beautifully executed drawings with which the pages are adorned take up a good deal of the space. The descriptions are singularly lucid and intelligible; and the author, although a professor on the other side of the Atlantic, has written his book in English and not in American, for which he will receive the thanks of his readers in this hemisphere.

The work is divided into two parts, dealing respectively with general development and organogeny. In the first part the spermatozoon and ovum, fertilisation, segmentation, formation of the germinal layers, the development of the external form of the embryo, the medullary groove, notochord and mesodermic somites, and the yolk stalk, belly stalk and fœtal membranes are described; while in the second part the development of the different systems is considered in a series of chapters. An interesting final chapter treats of post-natal development. Here we find a record of the great alteration which takes place in the geometrical shape of the body after birth, some parts undergoing a diminution in size relative to the entire body, others a relative increase. Tables are given showing that the rate of growth, both of the embryo before birth and of the child after birth, is very variable—a diminution taking place from the eleventh to the thirteenth year, and an increase about the sixteenth. The ages at which these variations occur is somewhat earlier in girls than in boys, as is evident when the annual increase of weight is expressed in curves. Of the organs, some—such as the liver, thymus, thyroid, suprarenals, spleen, nerve centres—undergo a relative diminution in weight as compared with that of the body, while the skeleton, and particularly the muscles, undergo a relative increase, and the digestive tract and lungs remain unchanged. The alterations in the spinal curves, in the shape of the pelvis, thorax, and, above all, of the skull, are well although briefly described. A short but well-selected bibliographical list is given at the end of each chapter, and there

is a good index. The bringing out of the book is unexceptionable.

Contribution à la Pathogénie et au Traitment de l'Épilepsie. Par M. le Dr. E. Lambotte. Bruxelles: Hayez. 1903. Pp. 29.

This lively and eminently readable essay was sent in in answer to the following question, proposed by the Royal Academy of Medicine of Belgium:—"Elucidate by clinical observation, and, if necessary, by pathogenic and therapeutic experiments, diseases of the central nervous system, and principally epilepsy." The work of Dr. Lambotte was awarded a prize of 500 francs, and is published by the Academy.

We cannot follow the author step by step through his paper, but we must confine ourselves to saying that everything tends, in his opinion, to show that epilepsy is due to increased intracranial pressure, and that if this pressure could be permanently removed the fits would cease. The temporary good effects which follow removal of portions of the bone of the skull are shown to be due really to the relief of pressure, and not to any other element in the operation. That the fits recur is explained by the return of pressure which follows the cicatrisation of the soft parts; and when the bone is replaced the soft tissue formed between the edges of the bone tends to draw down the replaced portion of the cranium and to diminish again the size of the cranial cavity. To obviate this he proposes to remove very large portions of bone, even the entire cranial vault, and to insert metallic pieces between the cut edges so as to prevent the retraction.

He describes a very interesting cause of increased pressure which he has frequently met with in cases of epilepsy which he has trephined. This is an accumulation of fluid, not colourless, and situated in the subarachnoid space, but yellowish, and lying in the arachnoid sac. This is, therefore, manifestly not normal cerebro-spinal fluid, but serum, and the condition of the arachnoid is here similar to that of the tunica vaginalis in hydrocele.

The removal of this fluid causes cessation of the epileptic attacks, which, however, recur when the trepan wound heals,

but again disappear if the accumulating fluid is removed by puncture, to again supervene on the re-accumulation of the exudation. For the treatment of these cases the writer proposes to insert one end of a thread into the cavity while the other end lies in the subcutaneous tissue. The thread acts as a drain, conveying the fluid from the arachnoid sac where it is secreted into the areolar tissue, from which it can readily be absorbed. He has practised this operation in one case in which the results are so far good, since the patient, who was previously punctured with only very transitory advantage, has now been for five months without any attack. That this method is capable of application to effusions into other serous sacs is evident.

How far the author's views and methods of treatment are sound, time only can tell, but there can be no doubt that he has put both forward in an interesting and attractive form in this essay.

The Edinburgh Medical Journal. Edited by G. A. Gibson, M.D., F.R.C.P. Ed.; and Alexis Thomson, M.D., F.R.C.S. Ed. New Series. Vol. XIII. Edinburgh and London: Young J. Pentland. 1903. 8vo. Pp. vi + 572.

With their usual courtesy the editors and the publishers of this excellent "Monthly" have presented to us a bound copy of the latest volume published. All we need say is that Volume XIII. of the New Series fully sustains the high reputation of this old-established Medical Journal.

Just now Dr. Aitchinson Robertson's article on the "Local Distribution of Cancer in Scotland" will be read with keen interest. The second series of Dr. G. A. Gibson's lectures on the "Nervous Affections of the Heart," delivered before the Royal College of Physicians of Edinburgh, also finds a place in this volume. There is also a thoughtful paper on the "Selection of Cases of Pulmonary Tuberculosis for Sanatorium Treatment," by Dr. T. N. Kelynack, Assistant Physician to the Mount Vernon Hospital for Consumption and Diseases of the Chest, London. One passage from this paper is well worth quoting. Dr. Kelynack writes: "By extravagant advocacy, unreasoning confidence, and the want of proper

care in the selection of suitable cases, the best method known to medical science for the effectual treatment of consumption is in danger of being discredited, and already there are signs that, in some quarters, the faith and the support of the public are waning."

In the departments other than that devoted to "Original Communications," this volume is also up to the standard.

Atlas and Epitome of Human Histology and Microscopic Anatomy. By Doctor Johannes Sobotta, of the University of Würzburg, Bavaria. Edited, with extensive additions, by G. Carl Huber, M.D.; Junior Professor of Anatomy and Director of the Histologic Laboratory at the University of Michigan. Authorised Translation from the German. With 171 Illustrations on 80 Lithographic Plates, and 68 Text Illustrations. Philadelphia and London: W. B. Saunders & Co. 1903. 8vo. Pp. 248.

In his "Atlas und Grundriss der Histologie und mikroskopischen Anatomie des Menschen," Dr. Sobotta, of the University of Würzburg, Bavaria, succeeded in combining numerous well-chosen and accurate illustrations with a concise explanatory text, so as to make his work both an atlas and a text-book. It is now presented to English readers through the enterprise of Messrs. W. B. Saunders, and with the invaluable aid of Dr. G. Carl Huber, the Director of the Histological Laboratory of the University of Michigan, and of Dr. Lydia M. De Witt, to whom was entrusted the task of translation from the original German.

The illustrations comprise eighty lithographic plates, which have been reproduced with the aid of over thirty colours, and sixty-eight figures, reproduced by means of photomechanical methods. The preparations were, in the first instance, photographed under the same magnification as that under which they were drawn. The photographs were then used as a basis for the drawings. Outline drawings, even to the finest details, were traced on tracing-paper, and then transferred to drawing paper. This method insures accuracy in magnification, and obviates distortion, while the photograph serves as a control picture during the preparation

of the drawing. Nearly all the illustrations in the volume were made under relatively low magnifications, such as are used by students in the general microscopic courses. Many of the figures portray, under very low magnifying powers, a general view of entire organs or parts of organs, so enabling the student to grasp in a more accurate mental picture the relations of the component structures of the several organs.

It is grimly stated in the Editor's preface that most of the illustrations were made from sections prepared from human tissues obtained from "individuals who had been executed." The tissues employed may therefore be regarded as fresh and normal in every respect. Nearly all the microscopic preparations were made by Sobotta.

The scheme of the work is simple. The first part, extending to something over 60 pages, describes the histology of cells and tissues—the latter embracing epithelial, supporting or connective, muscle and nervous, tissues. The second part is concerned with the microscopic anatomy of the several organs—the skeletal system, the organs of the muscular, nervous, vascular (blood and lymph), digestive, urinary, reproductive (male and female), and respiratory systems; the skin and the special sense organs.

A mead of praise is due to Dr. Lydia M. De Witt for the manner in which she has executed the difficult task of translation into good and smooth-running English. A copious index concludes the work, which is one that will undoubtedly make its mark in English-speaking countries.

Diseases of the Skin: an Outline of the Principles and Practice of Dermatology. By MALCOLM MORRIS, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London; Corresponding Member of the K. K. Gesellschaft der Aertze in Wien; Honorary Member of the Wiener dermatologische Gesellschaft and of the Société française de Dermatologie. With 2 Coloured Plates and 58 Plain Figures. New Edition. London, Paris, New York and Melbourne: Cassell & Co., Limited. MCMIII. Pp. 642.

WE cordially welcome the appearance of a new edition of this excellent manual on skin diseases. When noticing the

first edition in the number of this Journal for February, 1894, we observed that the book was "the handiwork of an acknowledged master of the subject with which he has undertaken to deal," and we now (as we did then) congratulate the author most warmly on the satisfactory result of his efforts to produce a readable, reliable and concise text-book on one of the most important group of diseases to which the human frame is prone.

In these pages medical students and practitioners alike will find a clear and graphic description of the several cutaneous affections, while endless hints as to treatment will be found throughout the book. In this connection, Mr. Malcolm Morris points out that the index has been considerably enlarged with the object of enabling the reader to see at a glance the main lines of treatment available in a given disease.

The work is well illustrated by two coloured plates and fifty-eight plain figures. The plates show the various fungi of ringworm and a number of the micro-organisms which play an important part in the ætiology of skin diseases. Several new illustrations have been added to those which appeared in former editions, and for some of these the author expresses his acknowledgments to Dr. Gilchrist, of Baltimore, and Dr. Arthur Whitfield, of London.

At this time of day, when the reputation of this manual is so fully established, it is not necessary to go at any length into the contents of the book. There are a few points, however, which call for notice or comment. In a brief account of the part played by protozoa in causing definite diseases in man and in the lower animals, Mr. Malcolm Morris refers to the so-called "molluscum bodies" and "cancer bodies," which have certain resemblances to encysted protozoa. Mr. Morris states that the question is not settled, but he considers that the balance of evidence is still in favour of those who hold that the molluscum and cancer "bodies" are the result of exceptional pathological changes within the cells themselves (page 10).

Surely, there is a slip at the top of page 62, where the composition of Ihle's paste is said to be ichthyol, lanolin, vaselin, zinc oxide, and powdered starch. It is resorcin, not ichthyol, which is the most active agent in this useful pre-

paration. We do not deny that ichthyol would be a most serviceable substitute for resorcin, for we have had practical proof of its efficacy.

On the vexed questions of the ætiology of leprosy and the relation of "yaws" to syphilis, Malcolm Morris dissents from the views held and advocated by Jonathan Hutchinson. Thus, at page 490, he observes: "As regards fish in particular, there is abundant proof that persons may contract leprosy who have never had the opportunity of eating fish." Again, at page 500, he says: "It has been contended by some authorities that yaws is a form of syphilis, modified by race and climate, but, though it presents many points of analogy with syphilis, I am inclined to agree with Rat and others, who have had extensive opportunities of studying the disease clinically, that on the whole the balance of evidence is against its being syphilis." He admits that further pathological research is required to settle the question.

In conclusion, we have much pleasure in recommending Mr. Malcolm Morris's concise yet comprehensive "Outline" (as he modestly terms it) of the Principles and Practice of Dermatology to all who desire to make themselves conversant with the subject.

Memoirs and Letters of Sir James Paget. Edited by STEPHEN PAGET, one of his sons. With a Portrait. Third Edition (Eighth Impression). With a Postscript by SIR THOMAS SMITH. London, New York and Bombay: Longmans, Green & Co. 1903. 8vo. Pp. 465.

WE owe our readers an apology for not having sooner drawn their attention to this delightful book. It is as instructive as it is interesting. As the title indicates, the work consists of two parts—the first, an autobiography; the second, a biography written by a loving yet an impartial hand.

The "Memoirs," which make up the first part of the book, were written by Sir James Paget himself in the years 1880 to 1885. Mr. Stephen Paget explains, in the preface to the first edition, published in 1901, that they tell chiefly of Sir James Paget's early life. Six chapters are given to the years 1814–1851, and only one chapter to later years. A "com-

mentary" on each chapter has been added by the editor, who has also, in the second Part, completed the story of the life of one of the ablest surgeons and most erudite and eloquent members of the Medical Profession of any age or any country.

It may not be generally known that James Paget had a hard uphill fight for many years before he entered upon that grand professional career of which his countrymen are so justly proud. The story of his struggles and final victory is graphically told in this charming book, which should be read by every medical student and practitioner. Thanks to the enterprise of the famous publishing firm of Messrs. Longmans, Green & Company, the volume can be purchased at a trifling cost. The price of the present, the third, edition is six shillings net.

Catechism Series. Pathology. Part II. Pp. 68. Pathology. Part III. Pp. 62. Physiology. Part III. Second Edition. Pp. 80. Edinburgh: E. & S. Livingstone. 1903.

It will interest those medical students who are about to present themselves for examination to learn that these parts of the well-known "Catechism Series" have recently been published. We have so often referred to Messrs. Livingstone's Students' Catechism that we have only to say that the neatly printed little books which compose the series, and which may now be counted by tens, no doubt fulfil a useful mission. But is the information imparted by them always adequate? To take a single instance. In the section on "the Glycogenic Function of the Liver" (Physiology, part 3, pages 4 to 9 inclusive) the only allusion to the relation of the pancreas to diabetes mellitus is contained in the bald statement that this condition may (among many other causes) be produced "by excision of the pancreas."

Études sur la Contraction tonique du Muscle strié et ses Excitants. Par Mdlle. J. Ioteyko. Bruxelles: Hayez. 1903. Pp. 100.

This essay, published by the Belgian Royal Academy of Medicine, maintains the theory that in muscle, not only the

anisotropic substance is contractile, but also the sarcoplasma or isotropic substance, and that while the mode of contraction of the former is short and abrupt and followed by rapid relaxation, that of the latter is slow, sustained, and succeeded by a much slower and more gradual elongation. The relative proportion of these two substances is different in the different kinds of muscle, white, red, and unstriped, in which the proportion of sarcoplasma undergoes a progressive increase, and the tonicity of contraction increases accordingly.

There are many agencies by which the motor properties of the sarcoplasma of striated muscle may be increased, such as veratrin, anæsthetics, ammonia, and some salts; we then obtain on stimulation a double contraction, the first being short and due to the striated substance, the second long and sustained, due to the sarcoplasm. While the galvanic current acts on the anisotropic substance of muscle only when it varies in intensity, as at closure or opening, the sarcoplasm is excited during the whole time of passage of the current, hence very short currents, as induction shocks have much less effect on it than the continuous current.

But while isolated induction shocks produce but little effect on the sarcoplasm, this becomes excitable by a repetition of such stimuli, either tetanising or applied at regular intervals. This is due to what the authoress calls latent addition, and explains the phenomenon of what is known as the "staircase," when a series of single stimuli is applied. That this is due to the sarcoplasma and not to the anisotropic substance is shown by the elongation of each twitch, which is for many reasons clearly not due at this stage to fatigue. Not only are chemical and electrical stimuli capable of calling out the tonicity of a muscle, but this can be excited by mechanical stimuli, as shown by the idio-muscular contraction of Schiff.

The contracture of Tiegel, or that tonic shortening which is sometimes noticed in a muscle when it is submitted to a series of induction shocks, is not the result merely of the electric stimulation. It occurs at the commencement of the stimulation, and often gives way later on to an actual elongation of the muscle. It is seen only in Spring frogs who have not recovered from the effects of their Winter sleep. During hibernation toxic products of metabolism accumulate in the

muscles, and act on them like veratrin, and like this drug raise the excitability of the sarcoplasm so as to make it respond to induction shocks. That the phenomenon is not due to cold is shown by the writer, who was able to obtain it in July in frogs who had been kept in captivity since the winter.

The contracture of fatigue occurs later on in the course of the stimulation, and is also due to the action on the sarcoplasma of toxic matters engendered by the contracting muscle. But while this is a normal phenomenon, the contracture of Tiegel is pathological.

A number of ingenious experiments are described, by which it is shown that veratrin acts on the muscle and not on the nerve. Even that action which supervenes after some time when the cut end of the nerve of a nerve-muscle preparation is dipped into a solution of veratrin, is shown to be due to a passage of the poison along the nerve to the contractile muscle.

By experiments made on muscles poisoned by veratrin a complete independence is demonstrated between the initial short contraction of the anisotropic substance and the secondary slower contraction of the sarcoplasma. By this means the longer latent period, the less amplitude, the longer duration, and the more extended form of the latter contraction can be well studied. The sarcoplasm is less excitable but more resistant to fatigue than is the anisotropic substance.

Even in the pale striated muscles indications of rhythmic contractions are sometimes seen, such as those which occur in the heart, and to a less degree in red and smooth muscle. These, however, are noticed only when the pale muscle is submitted to sarcoplasmatic excitants, as veratrin, in closing tetanus and during the contraction of Tiegel.

The similarities and differences between the normal tonic contraction and the idio-muscular contraction of Schiff are pointed out. In the former the propagation of the wave of contraction is very slow, while in the latter the wave does not travel at all, but is stationary. This occurs in anæmic, fatigued and dying muscle, and is followed immediately by *rigor mortis*.

Normally the tonicity of the muscle is kept up by minimal continuous stimuli reaching it through the nerves. The

more powerful abrupt discharges, which call out the voluntary contractions, act on both parts of the muscle.

Attention is directed to the advantage which the muscle derives from this tonic contraction in its normal action, and to the part which tonicity plays in many abnormal forms of contraction, as in cases of neurasthenia and hysteria

This essay, which is evidently the outcome of much labour, is a valuable contribution to the physiology of muscle. It is written in an agreeable, intelligible style, and the text is illustrated by many very successful graphic records. It concludes with a good bibliography.

Index Medicus. A Monthly Classified Record of the Current Medical Literature of the World. Second Series. Robert Fletcher, M.D., and Fielding H. Garrison, M.D., Editors. Vol. I. Nos. 1, 2 and 3. January, February and March, 1903. Published by the Carnegie Institution of Washington. Rockwell and Churchill.

In common with all who have the interests of Medical Literature at heart we hail with great satisfaction the reappearance of the "Index Medicus." It is a publication which should never have been allowed to lapse, and it will be a grave blot on the fair fame of the Medical Profession if a like fate should befall the second series, of which the first three numbers lie upon our desk. Yet rumour has it that the support so far given to the venture has been half-hearted and quite unworthy of the merits of the publication.

In a note to the subscribers Dr. Robert Fletcher, the Editor-in-Chief, explains that the delay in issuing the first number of the new series of the "Index Medicus" has been unavoidable. The printers found it necessary to procure an entire new supply of type, such as a journal representing from fifteen to twenty languages requires. A very large proportion of this type consists of special and accented letters which had to be made by hand. The delay from waiting on the typefounder, though provoking, has resulted in the production of a rather larger type than was made use of in the first series, and the clear appearance of which commends itself.

While this series of the "Index Medicus" begins, as announced, with 1903, some titles from foreign journals for December, 1902, many of which seemed to indicate continuation, have been included in the first number.

Numbers 2 and 3, for February and March, have been issued as a double number, the material having sufficiently accumulated, owing to the delay in the publication of the January number.

The classification of the subject-matter adopted is based, as far as possible, upon the latest accepted views in Medicine, the whole range of which is covered in the Table of Contents.

The subscription price of the "Index Medicus" (to be paid in advance) is five dollars per annum in the United States and Canada, twenty-five shillings in the United Kingdom, twenty-five marks in Germany, thirty francs in France, and thirty lire in Italy. All communications relating to subscriptions must be addressed to the Carnegie Institution of Washington, Washington, D.C., United States. Letters relating to the editorial department should be addressed to the Editors of the "Index Medicus," Washington, D.C.

The Medical Annual. A Year-book of Treatment and Practitioners' Index. 1903. Twenty-first Year. Bristol: John Wright & Co. London: Simpkin, Marshall & Co.

It is difficult to say anything fresh in praise of this excellent hand-book that for twenty-one years has proved so valuable a year-book of reference to medical practitioners. It gives a true reflection of the knowledge of the year, and the present volume gives a general summary of the year's work.

Wheeler's Hand-book of Medicine and Therapeutics. Second Edition, Revised and Enlarged. By William R. Jack, B.Sc., M.D., F.F.P.S.G.; Assistant to the Professor of Practice of Medicine, Glasgow University; Physician to the Outdoor Department, Glasgow Western Infirmary. Edinburgh: E. & S. Livingstone. 1903.

We must congratulate Dr. William Jack on successfully bringing Dr. Wheeler's text-book up to date without

materially departing from the excellent plan of the original volume. As might be expected, the advance of scientific medicine during the decade since the book first appeared necessitated Dr. Jack writing afresh the whole article on bacteriology and the study of infectious diseases, and he has accomplished his task most creditably.

The Pocket Therapist: A Dictionary of Disease and its Treatment. Being a Concise Manual of Modern Treatment and an Aid to Memory, for Students and Practitioners. By THOMAS STRETCH DOWSE, M.D., F.R.C.P.Ed.; President North London Medical Society; Member of Council and Secretary for Foreign Correspondence, Medical Society of London; Physician to the North London Hospital for Consumption and Diseases of the Chest, &c. Third Edition, Revised and Enlarged. Bristol: John Wright & Co. 1903.

THIS pocket dictionary is just about one of the best we have seen. In its 411 pages the author has condensed an immense amount of valuable information of a practical character. We heartily recommend it.

An English Hand-book to the Paris Medical School. By A. A. WARDEN, M.D.; Visiting Physician to the Hertford British Hospital, Paris. With Prefatory Letters by LORD LISTER and PROF. W. W. KEEN. London: J. & A. Churchill. 1903. Pp. 74.

A MINE of information in a small compass, and a reliable guide to all British students of medicine or practitioners who desire to visit Paris with the intention of pursuing their medical studies in the famous Parisian School of Medicine. Under the name of each hospital the author gives its position in the city and the means of reaching it, the professors—physicians and surgeons—who have wards in it, and the days and hours appointed for their visits and lectures. Details are added in connection with museums and libraries, medical societies and their meetings, the practice of medicine in France, the Pasteur Institute, the Institute of France, &c.

Dr. Warden also appends a list of the English and American physicians who practise in Paris, and the addresses of some English-trained nurses and nursing institutions.

A Pharmacopœia for Diseases of the Skin. Edited by JAMES STARTIN, Senior Surgeon to the London Skin Hospital, Fitzroy-square. Fifth Edition. Bristol: John Wright & Co. 1903. Pp. 64.

WE have noticed with approval former editions of this compact Formulary for Skin Diseases. The symbols need revision in one or two of the prescriptions, and what is the English of the phrase "Modus Oj ad aquæ cxxx"? We presume the meaning is—"In the proportion of one pint to 30 gallons of water." The "misturæ" are made up to a pint, the dose in some instances being only one to two drachms in water. They are, therefore, practically "stock bottles."

MEDICINE IN THE FUTURE.

DR. F. BILLINGS, in his address to the American Medical Association, said: "To-day medical science demands primary instruction to fit a man as an investigator and scientific physician. If not properly educated he cannot grasp the great problems which medicine presents to-day as he did the more simple clinical facts which comprised the art of medicine and surgery a few years ago."

TYPHOID FEVER SIMULATING CEREBRO-SPINAL FEVER.

MM. MOIZARD and GRENET (*Arch. de Méd. des Enfants*) report the case of a boy, aged five years, who was admitted to hospital complaining of headache, loss of appetite, sleeplessness, cough, and confined bowels. His axillary and inguinal glands were enlarged: there was pain and stiffness in the muscles of the neck. He suffered from dyspnœa, and râles were heard on both sides of the thorax. He vomited without nausea, and he was unable to contract the leg on the thigh. Lumbar puncture detected no cellular elements in the cerebro-spinal fluid. The Widal test was positive. He recovered in four weeks. The diagnosis depended on the Widal reaction and the absence of leucocytes in the cerebro-spinal fluid.

LIQUOR COLCHICINÆ SALICYLATIS.

(HOPKINSON'S)

A Specific for Gout and Rheumatism.

Baiss Brothers & Stevenson, Ltd.,

Manufacturing Chemists and
Wholesale Druggists, - -
CONTRACTORS TO H.M. GOVERNMENT.

JEWRY STREET, LONDON.

HOPKINSON'S

Liq: Colchicinæ Salicylatis

Gives Immediate Relief in all Cases of RHEUMATOID ARTHRITIS, CHRONIC RHEUMATISM, GOUT, and LUMBAGO.

Each fluid drachm contains $\frac{1}{32}$ grain of Salicylate of Colchicine.

A feature to which we desire to draw special attention is that no depressing effect is produced, and the action of the kidneys and liver is not affected.

Numerous favourable reports have been received from members of the Medical Profession, a few of which are appended, and this preparation created great interest at the recent Congress of the British Medical Association.

It is found impossible to get the same result with Colchicum Wine and Salicylic Acid.

DOSE.—A TEASPOONFUL DILUTED, TWICE A DAY BETWEEN MEALS.

PRESCRIBE—Liquor Colchicinæ Salicyl (Hopkinson's).

TESTIMONIALS.

EASTWOOD, *April 29th*, 1893.

DEAR SIRS,—I have now prescribed your **Liquor Colchicinæ Salicyl** for several months with marked effect in every case. Before it was brought under my notice in the *Lancet*, I never prescribed the ordinary remedies with any confidence. Your spécialité, however, gives me the utmost satisfaction, and I can confidently recommend it to my brother practitioners. It has no depressing effect on the heart.

I am, dear Sirs, yours faithfully,

—— ——, M.R.C.S., ENG.

PLEASLEY, MANSFIELD, *May 18th*, 1893.

GENTLEMEN,—I have much pleasure in testifying to the great benefit I have experienced from the use of your **Liquor Colchicinæ Salicyl** in my own case for lumbago. During the 18 months I have used it (for three separate attacks) it has **not failed me once.** I have always experienced relief within half-an-hour of the time of taking the first dose, and three or four doses have invariably succeeded in subduing the attack, and that without causing any unpleasant effect whatever, or even necessitating confinement indoors. I regard it as a valuable remedy for this and similar complaints. I shall take care to have it by me for personal use, and shall prescribe it to my patients.

Yours faithfully,

—— ——, M.B., C.M. (Univ. Aberd)

GREAT GRIMSBY.

DR. SMITH would be much obliged if Messrs. Hopkinson & Co. will send him, for his own use, another bottle of **Liquor Colchicinæ Salicyl.** He has derived great benefit from it.

LONDON, W., *May 15th*. 1893.

DEAR SIRS,—I have found your **Liquor Colchicinæ Salicyl** of great value in my own case. I was soon quite relieved from pain, after having been ill for a long time with rheumatic gout. I have prescribed and recommended it to a great many people since, and have heard good results in every case.

Yours truly,

—— ——, F.R.C.S., ENG.

Extract from the "BRITISH MEDICAL JOURNAL."

"A preparation which is said to be very successful in the treatment of Chronic Rheumatism, Gout, and Lumbago, is prepared under the name of **Liquor Colchicinæ Salicyl** (Hopkinson); 60 minims diluted contain $\frac{1}{32}$ of a grain of Salicylate of Colchicine.

Sold in 1 lb., ½ lb., ¼ lb., and 2 oz. bottles. Price 16/- 8/6, 4/6, and 2/6 each.

May be had either direct from . .

Baiss Brothers & Stevenson, Ltd.,

MANUFACTURING CHEMISTS,

4, JEWRY STREET, LONDON, E.C.,

Or through your own Chemist or any Wholesale Drug House.

SAMPLES FREE.

Mist. Bismuthi Aromat. (BAISS)

THIS valuable remedy has been before the Medical Profession, and has been much appreciated by them for the past 28 years. It is useful for Dyspepsia, Gastric Distress, Impaired Digestive Powers, and Gastrodynia. It is an elegant compound, very palatable, *retained by the most enfeebled patient*, and has no precipitate. The component parts are on every label—it is no secret formula. Each teaspoonful contains 1½ minims Acid Hydrocyanic B.P., $\frac{1}{32}$ grain Morphia, 6 minims Tinct. Nucis Vom. with Bismuth, in its most efficacious form and Chloroform.

Dose.—One fluid drachm.

Sold in 1 lb. bottles 4/-, 2 lb. bottles 7/9, 4 lb. bottles 15/- each

PRESCRIBE—Mist. Bismuthi Aromat. (*Baiss*).

Mist. Bismuthi . . . . Aromat. $\bar{c}$ Pepsina.

(BAISS)

Is identical with above preparation, with the addition of 2 grains Pure Pepsin Porci in each fluid drachm.

Dose.—One fluid drachm.

Sold in 1 lb. bottles 4/6, 2 lb. bottles 8/6, 4 lb. bottles 16/- each

Liq. Caulophylli et Pulsatillæ.

Price, 4/6 per lb.

A VALUABLE uterine sedative and tonic in affections of the utero-genital organs.

Dose.—10 to 30 minims.

Liq. Euonymi et . . Cascaræ Sagradæ Co.

Price, 6/- per lb.

THE well-known laxative properties of Cascara in combination with Euonymin renders this an invaluable preparation in hepatic troubles, and is much esteemed by the profession.

Dose.—½ to 1 drachm.

☞ SAMPLES FREE.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—Lombe Atthill, M.D., F.R.C.P.I.
General Secretary—John B. Story, M.B., F.R.C.S.I.

SECTION OF STATE MEDICINE.

President—Ninian M. Falkiner, M.D., F.R.C.P.I.
General Secretary—F. C. Martley, M.D., F.R.C.P.I.

Friday, May 1, 1903.

The President in the Chair.

The Notification of Measles.

Sir Charles A. Cameron, C.B., read a paper on this subject, giving the history of the notification throughout the Three Kingdoms, showing that it is in force in but an insignificant number of towns, and that many towns after adopting it have since reversed their action; he recommended that it should be restricted to first cases of the disease, when an epidemic had been established.

The paper was discussed by Drs. Day, Kirkpatrick, Parsons, Magennis, and Byrne, and Sir Charles Cameron replied.

Method of Isolating the Typhoid Bacillus from Soil, Water, Faces, &c., with Special Reference to (and a Demonstration of) the New Method of Drigalski and Conradi.

Professor E. J. McWeeney read a paper on this subject.

The author began by referring to the difficulties which were encountered in the effort to demonstrate the typhoid bacillus, owing to the absence of specific staining reaction, special virulence for animals, and appropriate enrichment-method. The many plans that had been suggested for the encouragement of the growth of Eberth's bacillus at the expense of that of its saprophytic congeners had proved ineffective. Addition of antiseptics to fluid

media to which the suspected substance was added resulted not in the exclusive development of the typhoid bacillus, but in the production of an attenuated form of *B. coli*, which was liable to be mistaken for it. The author had satisfied himself that when samples of bile containing large numbers of genuine typhoid bacilli and a few colon bacilli are added to Parietti bouillon and incubated, in 24 hours only the colon bacilli can be found by plating out. The methods of Holz, Elsner and Piorkowski had proved equally unsatisfactory. On the other hand, he had had excellent results with the Drigalski medium, the composition of which was as follows :—Chopped beef, 3 lbs. ; water, 2 litres ; mix ; let stand till next day ; strain off the flesh-water ; squeeze out the meat ; boil for an hour ; filter ; add 20 grms. Witte's peptone ; 20 grms. nutrose (Höchst) ; 10 grms. NaCl ; boil for an hour ; filter ; add 60 grms. agar ; boil 3 hours (or autoclave, 1 hour) ; make faintly alkaline to litmus paper ; filter ; boil an hour. Meanwhile prepare a solution of litmus according to Kubler and Tiemann, boil it for 10 minutes ; to 260 c.c. of this add 30 grms. pure lactose ; boil for 15 minutes, and add to the boiling agar medium ; shake well, and restore, if necessary, the faintly alkaline reaction. Then add 4 c.c. of a hot 10 p.c. solution of anhydrous Na_2CO_3, and 20 c.c. of a freshly prepared solution of Crystal Violet B. Höchst (strength 0·1 grm. in 100 c.c. warm sterile distilled water). The medium is now ready, and a number of Petri dishes should be at once poured with some of it (about 15 c.c. in each), and the rest stored in flasks of about 200 c.c. content. The inoculation is done by rubbing the dry, hard surface of the medium over with a bent glass rod. A series of plates should be rubbed over with the same rod without recharging, so as to get discrete colonies. The author allows his plates to cool after pouring, without the lid, so as to avoid condensation-water. While cooling they are loosely covered with a piece of sterile filter paper. Contamination with air germs does not occur owing to the inhibitory action of the Crystal Violet. After inoculation the plates are incubated 18–24 hours at 37°. It is then quite easy to recognise the typhoid colonies by their bluish transparent appearance and small size, whilst the B. coli colonies are larger, more opaque, often doubly contoured, and reddish. It is always necessary to test the selected colonies, which is most quickly done by rubbing up a small trace in a hanging drop of highly dilute typhoid serum, and observing whether agglutination occurs. In this way the bacillus of Eberth can readily be detected in the fæces within 24 hours, and the diagnosis made at a period

when the Gruber-Widal test as yet yields a negative result. As the result of his own experience Professor McWeeney could fully corroborate the statements made by the inventors of the medium. Negative results were of little value, however, unless repeated examinations were made, and he had had such in cases verified as typhoid at the autopsy. By the aid of the method he had in an abnormal case of typhoid detected the bacillus of Eberth in the bile, contents of duodenum, liver, and kidney, whilst he had failed to detect it in the contents of the ileum and colon. He had further found that the bacilli had undergone no diminution in the bile after keeping for three weeks in a capillary pipette, though in the presence of numerous colon bacilli. In the duodenal and other intestinal contents, however, they were not to be detected after keeping for the same period. The very numerous blue colonies that developed on the plates inoculated with the putrid fæces appeared to be *B. fœcalis alcaligenes* of Petruschky—at any rate, not the typhoid bacillus. He emphasised the necessity for the careful testing of suspicious colonies on plates from old putrescent material before giving a positive diagnosis. In conclusion, the speaker described the striking results achieved with the aid of this medium by Koch at Trier, where the bacillus of Eberth was found in the fæces of apparently healthy "contacts," and urged the necessity of individual study of each case of typhoid and of examining the fæces of "contacts," and, where necessary, of disinfecting them, in order to get the upper hand of this infectious disease, as we have already done in the case of cholera and plague.

The paper was discussed by Drs. Falkiner, Tichborne and Sir Charles Cameron, and Professor McWeeney replied.

SECTION OF PATHOLOGY.

President—E. J. McWeeney, M.D.

Sectional Secretary—A. H. White, F.R.C.S.I.

Friday, May 8, 1903.

F. C. Purser, M.D., in the Chair.

Ossification within the Capsule of the Crystalline Lens.

Mr. Story and Dr. Earl exhibited a specimen showing ossification within the capsule of the crystalline lens. The specimen of true bone was found within the capsule of a partly calcareous lens, which was in a disorganised globe. The bone was distinctly

connected with the vascular tissues of the globe, and pigment granules were present in close apposition to the bone. Ossification of the actual lens is a physiological impossibility, and no authentic case has ever been recorded.

Hydatids of Liver.

Dr. Earl exhibited two unilocular hydatid cysts from a liver. One was sterile, and each was about the size of a hazel nut.

Liver and Heart from a Syphilitic Subject.

Dr. Dobbin showed these specimens. A police sergeant, aged fifty-two years, dropped down suddenly dead. On *post-mortem* examination the liver and heart were the only organs found diseased. The liver was lobulated irregularly, hard to cut. On section, two gummata, yellowish in colour, were seen. These microscopically showed round-celled infiltration and fibrous tissue. The left ventricle of the heart was hypertrophied, and its walls contained gummata: the endocardium was thickened and whitened. The microscope showed round-celled infiltration, giant cells, and fibrous tissue formation and obliterative endarteriitis.

Drs. Earl, Travers Smith, Bennett, and Kirkpatrick spoke, and Dr. Dobbin replied.

Specimens.

Dr. Neville exhibited specimens of (*a*) salpingitis isthmica nodosa; (*b*) endothelioma cervicis uteri; (*c*) placenta of seven months from a woman with chronic nephritis; (*d*) uterus with two forms of cancer (adeno-papilloma of fundus and adeno-carcinoma of cervix): and (*e*) microscopical section of myxoma chorii.

SECTION OF SURGERY.

President—L. H. Ormsby, F.R.C.S.I.

Sectional Secretary—J. Lentaigne, F.R.C.S.I.

Friday, May 15, 1903.

The President in the Chair.

Excision of the Gasserian Ganglion.

Mr. Gordon made a communication on a case in which this operation was performed for severe tri-facial neuralgia. The patient, a woman, aged sixty-three years, had been under the

care of Dr. Cope and Dr. Wallace Beatty. Drug treatment having failed, the patient was placed under Mr. Gordon's care, and he operated on September 20, 1902. The woman had suffered from the neuralgia for eight years. At first the attacks had been separated by intervals of weeks, but these intervals had become progressively shorter until, when admitted to the Adelaide Hospital, they occurred every ten minutes, coming on either spontaneously or in response to most trifling stimuli. She had, maddened by despair, on one occasion attempted to commit suicide. Having given an account of the case, Mr. Gordon proceeded to a discussion of the operation. He showed a series of lantern slides, made for him by Professor Scott, to illustrate the operation both in its theory and practice. The success of the operation depended on the facts that the removal of the Gasserian ganglion wiped out of existence the entire fifth nerve, and regeneration was impossible. In the course of his remarks, Mr. Gordon stated that as it was unnecessary so it was inadvisable to preserve a bone flap, in that the formation of this must materially add to the duration of the operation. In raising the dura from the floor of the middle cranial fossa, hæmorrhage was the chief cause of difficulty. This could be best met by plugging the basal foramina. Preliminary ligature of the external carotid he considered futile and undesirable; such ligature would not at all influence hæmorrhage from torn tributaries of the cavernous sinus. Before describing the last step of the operation, certain anatomical features were illustrated—*e.g.*, the relations of the foramina to one another, and the immediate relations of the Gasserian ganglion. The sixth nerve and the cavernous sinus were both intimately related to the ganglion on its inner side and also to its ophthalmic division. In discussing questions regarding the extent of removal advisable, Mr. Gordon expressed himself in favour of complete extirpation of the ganglion with evulsion of the sensory root. A fear of sloughing of the cornea need not influence one's choice in this matter: it is quite a rare complication, and when it does occur is due to sepsis. In his concluding remarks Mr. Gordon referred to the low mortality of the operation in the experience of Rose and Horsley. He asked the members before forming an opinion on the merits of the operation to bear carefully in mind the gravity of the disease for which it is undertaken, and, on the other hand, to remember that there are good grounds for the belief that if the operation is successfully performed the cure of the neuralgia will be both immediate and permanent.

Mr. Maunsell congratulated Mr. Gordon upon his case and asked why Mr. Gordon would recommend evulsion of the sensory root instead of accurate division.

Mr. Goulding asked Mr. Gordon if he had formed any opinion as to the primary cause of the neuralgia in this case, and if the ganglion had been microscopically examined after its excision.

Dr. Haughton said he would like to join in congratulating Mr. Gordon on the success of the operation and on his most interesting paper. He would like to ask if he made any X-ray examination of the dental region, as he (Dr. Haughton) had found several cases of tic douloureux due to peripheral origin—*i.e.*, unerupted teeth in otherwise edentulous jaws, at sixty years and over, the removal of which completely cured the condition. He had also found patches of condensing osteitis, present in some other tic douloureux jaws, followed by relief on removal of these patches.

Traumatic Aneurysm of the Left Subclavian Artery produced by Fracture of the Left Clavicle.

Mr. William Taylor read the notes of a case in which a man, aged sixty-two years, slipped and fell on his left shoulder, sustaining thereby a fracture of the left clavicle about the usual situation, and of the usual oblique variety, but which was complicated by a sinus of the subclavian artery leading to the development of a traumatic aneurysm of that vessel. An X-ray photograph showed the nature of the fracture and demonstrated the presence of a small spiculum of bone projecting downwards, at right angles from the inner end of the outer fragment. The tumour occupied the lower part of the left posterior triangle of the neck, extended inwards underneath the sterno-mastoid muscle, and downwards below the clavicle, overlapping at the same time the broken fragments. A bruit was distinctly heard all over the tumour; pulsation was forcible and visible in the recumbent and sitting postures, but scarcely perceptible in the upright position. There was atheroma and a diastolic aortic murmur, but the urine was healthy. The patient being admitted under Mr. Taylor's care into the Meath Hospital, was at first treated by absolute rest, restricted diet, and iodide of potassium; but, at the end of a fortnight, it was evident from the increase in size of the tumour and the thinning of the skin that rupture was imminent. Operative treatment was then undertaken, the idea being to put a temporary ligature on the first stage of the artery after resecting the inner

third of the clavicle, and then to incise the tumour, turn out the clots, and deal directly with the site of injury. After two hours' careful and dangerous dissection in a space full of important structures and very much diminished by the encroachment of the thin-walled pulsating tumour, the attempt to ligate the first stage of the artery had to be abandoned as utterly impossible under the circumstances. During this dissection the vertebral vein got wounded, giving rise to alarming hæmorrhage for a moment, which, however, was arrested by a gauze tampon. Two further lines of treatment suggested themselves—viz., either to amputate at the shoulder-joint and follow up the axillary artery, and hope in this way to find the site of injury, or to incise the tumour, turn out the clots, and endeavour to secure the injured vessel. This, with its obvious dangers, was considered the better procedure; consequently, after resecting the remainder of the inner broken fragment, the tumour was incised, the clots turned out, and the fingers quickly thrust down towards the artery, which was felt and grasped by the finger and thumb, in this way arresting the rush of blood until the vessel could be controlled by proximal pressure from without. The clots and blood were then sponged out of the space, when the vessel could easily be seen with a small hole in its upper and anterior wall, evidently produced by the sharp spiculum of bone shown in the skiagram. An attempt to pass an aneurysm needle round the vessel now showed that the vein was firmly adherent to it, and as any injury to it was considered likely to necessitate immediate amputation, under the circumstances it was necessary to place forceps on the vessel. One forceps was applied internal to the opening, one over the opening, and one internal to it. The opening seemed to be in the middle of the third stage, and there were no vessels to be seen coming off. The inner end of the wound was sutured and the outer plugged with gauze to steady the forceps, after which the ordinary dressings were applied. The arm was supported on pillows and enveloped in wool. Recovery was rapid and uneventful. The forceps were removed on the twelfth day, after which the wound quickly closed. The temperature never rose above normal. As far as Mr. Taylor could find from an extensive perusal of the literature of the subject for the past century, in both the English and French languages, he could find only four authentic records of injury to the subclavian artery produced by a fractured clavicle, and one case in which an aneurysm of the innominate, arising some months subsequent to fracture of the right clavicle, was

ascribed to this injury. The four cases of injury to the subclavian were from fractures produced by some direct violence, and all were fatal. In his case the fracture was due to indirect violence and terminated successfully.

Mr. Gordon said that his chief reason for speaking was to congratulate Mr. Taylor. He disagreed with his statement that the paralysis was due to deprivation of blood. He thought the paralysis was due to pressure or traction during the operation; and, further, he (Mr. Gordon) was of opinion that the prognosis with regard to the paralysis was very good.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—D. J. Cunningham, M.D., F.R.C.S.I., F.R.S.
Sectional Secretary—William Taylor, M.B., F.R.C.S.I.

Friday, June 5, 1903.

William R. Dawson, M.D., in the Chair.

The Mechanical Structure of Bone stereoscopically demonstrated by X-rays.

Dr. W. S. Haughton, with Professor A. F. Dixon, D.Sc., brought forward a communication. The authors claimed that this method possessed the following advantages:—(1) It is readily applied, because they found it possible to examine the entire human skeleton in eight days with some monkeys' and birds' bones added for comparison: (2) it requires no special preparation of the bones, which may be recent or old, dirty or cleaned; (3) it does not damage the specimen; (4) it gives a more perfect reproduction of bone structure than any other method; (5) it lends itself to demonstration for students; (6) it lays the foundation on which to build intelligent arguments as to the site and place of fracture in bones. The method shows well, not only the longitudinal and transverse lamellæ in cancellous tissue, but also in big bone systems of right and left-handed intersecting spiral lamellæ. These spiral lamellæ are seen in all tubular bones, and are best marked where these bones curve, as in the upper end of the femur and humerus, clavicle, neck of ribs and transverse processes of vertebræ. The apparatus used was the very ingenious Röntgen stereoscope devised by M'Kenzie-Davidson.

On Long Vertical Sections of the Adult Human Body made without Freezing, with exhibit of Photographs.

Professor Fraser gave a *résumé* of his method of cutting in various planes serial sections of the adult human body without freezing, but after hardening with a modified solution of formalin. He had described his method to the Section in 1899, and had then shown a series of transverse sections of the adult made from head to foot at intervals of about one inch. Since that date he had cut a number of bodies at various ages in the median longitudinal plane, and he showed to the meeting an adult which had been cut over three years ago, and the body of a child about three years of age which he had cut the day before. His habit was to outline the median plane—the body lying on its face—with an aniline pencil from the coccyx to the glabella. Then a sharp knife was passed through the soft structures from the anal opening to the point of the coccyx, thence along the median line through the soft parts until the point of the knife was stopped by the back of the coccyx, the spines of the vertebræ, and the bony vault of the skull. A fine saw with a movable back, made by Weiss for the purpose, was now introduced at the coccyx and made to divide the vertebral column from below upwards, the point of the saw never passing deeper than the front of the bodies of the vertebræ. Then it was passed through the cranial vault, the contents of the cranial cavity, and a certain length along the cranial bone. It was then withdrawn, as the body had now to be turned on its back, and the cutting finished from the front. The median plane was outlined with the pencil from the pubes to the glabella. The knife now thus passes through the soft parts from the glabella to the xiphoid appendage, until stopped mainly by the two jaw bones, the body of the hyoid, and the front of the sternum. The saw was now introduced at the cranial vault, where it had previously ended, and was carried down through the bones of the face and part of the cranial bone left uncut when sawing from behind. The body of the hyoid and sternum are then divided, and the saw is not further required unless the cartilage at the symphysis pubis has become in part ossified, when it has to be passed through it. In the case of the male a couple of knitting needles are passed down the spongy part of the urethra, and the knife is guided between them from the glans to the raphé of the perineum and the symphysis pubis. The knife is then carried rapidly headwards through the abdominal

wall and through the abdominal viscera, thence through the contents of the thoracic cavity, the point of the knife running between the divided vertebræ behind and the blade through the soft parts in front. The two halves of the body now fall apart and the median long section is complete. Each half is then washed in a tank of water, the coagulum removed from the heart and blood-vessels, and the contents of the alimentary canal removed under the water tap. The specimens in Professor Fraser's judgment are very perfect and instructive when everything has gone well.

Professor Fraser also exhibited a large Atlas of photographs of median longitudinal and other sections, and of the serial dissection through the thorax and abdomen, both from front and back, made after the manner published in his book, showing those of the head and neck.

Undescended Ovaries in an Adult Female.

Professor Fraser then showed a specimen of undescended ovaries and Fallopian tubes, which he found in a corpulent female between fifty and sixty years of age, with no external evidence of ever having been pregnant. On the left side the tube and ovary lay behind the commencement of the sigmoid flexure, and slightly below the lower end of the kidney. On the right side the tube and ovary lay behind the cæcum and lower end of the ileum. On both sides what would have become broad ligament was fixed to the posterior abdominal wall. The uterus was apparently normal in its usual position at the back of the bladder, and from its fundus on either side the two Fallopian tubes passed over the pelvic brim up the posterior abdominal wall, as already stated.

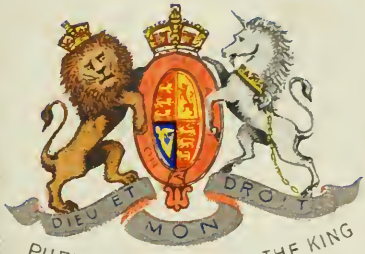
Effects of the Administration of Arginin.

Professor W. H. Thompson made some preliminary observations on this subject.

Effects of Pituitary Feeding on Metabolism.

Professor W. H. Thompson made a communication on the effects of pituitary feeding on metabolism.

CANTRELL & COCHRANE'S



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WE are the original manufacturers of this celebrated beverage. From its delightful aroma, matchless purity, and true carminative qualities, it has obtained the appellation of "The Beverage of the World." It is wonderfully exhilarating, but perfectly non-intoxicating. As an agreeable aromatic beverage, it is equally suitable for warm or cold weather, and has the additional claim to superiority over all other drinks of a kindred nature by the fact that it does not lose effervescing properties by being decanted. It is as clear and sparkling as champagne.

"CLUB SODA."

A NEUTRALIZER of the lactic acid in the blood, which is the cause of Rheumatism and similar affections; an antidote to acid dyspepsia, and a promoter of digestion. It is considered to be the most wholesome daily beverage that can be taken.

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THIS healthful and delicious beverage is one of the most popular which we make, especially with our juvenile customers; it is flavored with Pine Apple Juice obtained by us direct from the fruit, thus keeping its bouquet no matter how long decanted.

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ROYAL SELTZER WATER.

THIS Aërated Water combines the mildly alkaline and tonic saline properties of the genuine water of the Seltzer spring, with a full charge of carbonic acid, and presents them in the form of a most refreshing, exhilarating and restorative beverage.

SARSAPARILLA

HAS obtained a wide celebrity as the most effectual preparation of this famous Blood Purifier. The Medical faculty recommend it.

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DUBLIN - BELFAST,

IRELAND.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by Sir John Moore, B.A., M.D., Univ. Dubl.; F.R.C.P.I.; F.R. Met. Soc.; Diplomate in State Medicine and Ex-Sch. Trin. Coll. Dubl.

Vital Statistics.

For four weeks ending Saturday, June 20, 1903.

IRELAND.

Twenty-two Town Districts.

The average annual death-rate represented by the deaths—exclusive of deaths of persons admitted into public institutions from without the respective districts—registered in the week ended June 20, 1903, in the Dublin Registration Area and the twenty-one principal provincial Urban Districts of Ireland was 19.1 per 1,000 of their aggregate population, which, for the purposes of these returns, is estimated at 1,093,289. The deaths registered in each of the four weeks ended Saturday, June 20, and during the whole of that period, in the several districts, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns, &c.	Week ending				Average Rate for 4 weeks	Towns, &c.	Week ending				Average Rate for 4 weeks
	May 30	June 6	June 13	June 20			May 30	June 6	June 13	June 20	
22 Town Districts	21.4	18.8	20.1	19.1	19.9	Lisburn -	18.2	18.2	13.6	18.2	17.1
Armagh -	20.6	13.7	13.7	13.7	15.4	Londonderry	12.6	21.4	16.4	12.6	15.8
Ballymena	19.2	19.2	14·4	14.4	16.8	Lurgan -	26.6	13·3	31.0	26.6	24.4
Belfast -	21.5	16·4	19.2	20.4	19.4	Newry -	37.8	16.8	0.0	0·0	13.7
Clonmel -	5.1	15.4	41.0	0.0	15.4	Newtownards	40.1	40.1	28.6	11.4	30.1
Cork -	19.9	20·5	20.5	17.8	19.7	Portadown	20.7	10.3	25.8	31.0	22.0
Drogheda -	24.5	20.4	16.3	16.3	19.4	Queenstown	0.0	6.6	13.2	13.2	8.3
Dublin - (Reg. Area)	22.2	22.7	22.4	19.7	21.7	Sligo -	33.6	24.0	19.2	28.8	26.4
Dundalk -	19.9	8.0	16.0	27.9	18.0	Tralee -	42.3	10.6	21.1	31.7	26.4
Galway -	15.5	19.4	7.8	7.8	12.6	Waterford	19.5	7.8	11.7	19.5	14.6
Kilkenny -	24.6	19.7	44.2	14.7	25.8	Wexford -	23.3	32.7	9.3	9.3	18.7
Limerick -	17.8	6.8	17.8	21.9	16.1						

The deaths (excluding those of persons admitted into public institutions from without the respective districts) from certain epidemic diseases, registered in the 22 districts during the week ended Saturday, June 20, were equal to an annual rate of 1.6 per 1,000, the rates varying from 0.0 in fifteen of the districts to 10.3 in Portadown—the 6 deaths from all causes registered in that district including 2 from measles. Among the 140 deaths from all causes in Belfast are 4 from measles, 3 each from whooping-cough, enteric fever and diarrhœa. The 26 deaths in Cork include one from whooping-cough and one from diarrhœa.

DUBLIN REGISTRATION AREA.

The Dublin Registration Area now consists of the City of Dublin as extended by the Dublin Corporation Act, 1900, together with the Urban Districts of Rathmines, Pembroke, Blackrock, and Kingstown. The population of this area is 378,994, that of the City being 293,385, Rathmines 33,203, Pembroke 26,025, Blackrock 8,759, and Kingstown 17,622.

In the Dublin Registration Area the births registered during the week ended Saturday, June 20, amounted to 200—103 boys and 97 girls; and the deaths to 151—73 males and 78 females.

Deaths.

The deaths registered represent an annual rate of mortality of 20.8 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the Area, the rate was 19.7 per 1,000. During the twenty-four weeks ending with Saturday, June 20, the death-rate averaged 26.3, and was 1.9 below the mean rate for the corresponding portions of the ten years 1893–1902.

Three deaths from small-pox were registered during the week of persons aged 3 months, 7 years, and 47 years, respectively—the two former were reported "never vaccinated," and in reference to the last it was stated that there was "no primary cicatrix." There were 28 deaths from small-pox registered during the 15 weeks ending Saturday, June 20. Measles and scarlet fever each caused one death. One death from parotitis, 2 deaths from influenza, 6 deaths from whooping-cough, and one death from diphtheria were also registered.

Tuberculous disease caused 26 deaths: of these 16 were due to pulmonary consumption, 3 deaths were caused by tuberculous

meningitis, and 7 were caused by tuberculous disease of other organs.

One death was attributed to carcinoma, one to sarcoma, and 4 deaths were due to *malignant disease* ("*cancer*").

Of 7 deaths from diseases of the nervous system, 4 were due to *convulsions*. These four deaths were of children under 5 years of age.

Thirteen deaths were attributed to diseases of the heart and blood-vessels.

The 39 deaths from diseases of the respiratory system include 21 from bronchitis, 3 from croupous pneumonia, 7 from broncho-pneumonia, and 4 from *pneumonia*. The total (39) equals an annual rate of 5.4 per 1,000 of the Dublin Registration Area, the average rate for the corresponding period of the past 10 years being 3.3 per 1,000.

Two deaths were due to accidental violence.

In 7 instances the cause of death was "uncertified," there having been no medical attendant during the last illness. These cases include the deaths of 5 children under one year old and the death of a person aged 68 years.

Forty-seven of the persons whose deaths were registered during the week were under 5 years of age (30 being infants under one year, of whom 8 were under one month old), and 28 were aged 60 years and upwards, including 13 persons aged 70 and upwards, of whom 4 were octogenarians.

The Registrar-General points out that the names of causes of death printed above in italics should be avoided whenever possible in Medical Certificates of the Cause of Death.

STATE OF INFECTIOUS DISEASE IN THE DUBLIN REGISTRATION AREA AND IN BELFAST.

Returns of the number of cases of infectious diseases notified under the "Infectious Diseases (Notification) Act, 1889," as set forth in the following table, have been furnished by Sir Charles A. Cameron, C.B., M.D., Medical Superintendent Officer of Health for the City of Dublin; Mr. Fawcett, Executive Sanitary Officer for Rathmines and Rathgar Urban District; Mr. Manly, Executive Sanitary Officer for Pembroke Urban District; Mr. Heron, Executive Sanitary Officer for Blackrock Urban District; Dr. Roantree, Acting Medical Superintendent Officer of Health for Kingstown Urban District; and Dr. Whitaker, Medical Superintendent Officer of Health for the City of Belfast:—

TABLE SHOWING THE NUMBER OF CASES OF INFECTIOUS DISEASES notified in the Dublin Registration Area (viz.—the City of Dublin and the Urban Districts of Rathmines and Rathgar, Pembroke, Blackrock, and Kingstown), and in the City of Belfast, during the week ended June 20, 1903, and during each of the preceding three weeks.

CITIES AND URBAN DISTRICTS	Week ending	Small-pox	Measles	German Measles (Rubella)	Scarlet Fever	Typhus Fever	Relapsing Fever	Diphtheria	Membranous Croup	Continued Fever	Typhoid or Enteric Fever	Erysipelas	Puerperal Fever	Varicella	Other Notifiable Diseases	Total
City of Dublin	May 30	13	6	–	26	–	–	12	–	4	11	9	–	10	–	91
	June 6	13	4	–	21	–	–	5	–	4	11	8	–	8	–	74
	June 13	12*	10	–	17	–	–	5	–	2	13	21	–	4	1	85
	June 20	9	2	–	17	–	–	4	–	–	4	11	1	1	–	49
Rathmines and Rathgar Urban District	May 30	–	1	–	4	–	–	–	1	–	2	–	–	–	–	8
	June 6	1	–	–	4	–	–	3	–	–	–	–	–	–	–	8
	June 13	–	–	–	3	–	–	–	–	–	1	1	–	–	–	5
	June 20	–	–	–	7	–	–	6	–	–	–	1	–	3	–	17
Pembroke Urban District	May 30	–	–	–	–	–	–	–	–	–	–	2	–	–	–	2
	June 6	1	1	–	1	–	–	–	–	–	2	3	–	–	–	8
	June 13	–	–	–	–	–	–	–	–	–	–	2	–	1	–	3
	June 20	–	–	–	–	–	–	–	–	–	–	3	–	–	–	3
Blackrock Urban District	May 30	1	–	–	1	–	–	–	–	–	–	–	–	–	–	2
	June 6	–	–	–	1	–	–	–	–	–	–	–	–	–	–	1
	June 13	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
	June 20	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
Kingstown Urban District	May 30	–	–	–	–	1	–	–	–	–	–	–	–	–	–	1
	June 6	–	–	–	–	–	–	1	–	–	–	–	–	–	–	1
	June 13	3	–	–	–	–	–	–	–	–	–	–	–	–	–	3
	June 20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
City of Belfast	May 30	–	–	–	14	–	–	5	1	12	19	11	1	–	–	63
	June 6	–	–	–	11	–	–	5	–	9	21	14	–	–	–	60
	June 13	–	–	–	4	–	–	3	–	10	29	7	–	–	–	53
	June 20	–	–	–	14	–	–	3	1	19	24	6	1	–	–	68

CASES OF INFECTIOUS DISEASES UNDER TREATMENT IN DUBLIN HOSPITALS.

During the week ended Saturday, June 20, 1903, 11 cases of small-pox were admitted to hospital, 10 were discharged, there was one death, and 35 patients remained under treatment at its close. Besides these there were 36 convalescents at Beneavin, Glasnevin, the Convalescent Home of Cork-street Fever Hospital.

Three cases of measles were admitted to hospital, 2 patients were discharged, and 5 cases remained under treatment at the close of the week.

Fifteen cases of scarlatina were admitted to hospital, 29 cases were discharged, there was one death, and 143 cases remained under treatment at the close of the week.

* Including one case of "Varioloid."

Nine cases of diphtheria were admitted to hospital, 3 were discharged, there was one death, and 28 cases remained under treatment at the close of the week.

One case of enteric fever was admitted to hospital, 3 cases were discharged, and 14 cases remained under treatment at the close of the week.

In addition to the above-named diseases, 13 cases of pneumonia were admitted to hospital, 8 patients were discharged, there were 2 deaths, and 28 cases remained under treatment at the end of the week.

ENGLAND AND SCOTLAND.

The mortality in the week ended Saturday, June 20, in 76 large English towns, including London (in which the rate was 13.1), was equal to an average annual death-rate of 14.3 per 1,000 persons living. The average rate for 8 principal towns of Scotland was 17.0 per 1,000, the rate for Glasgow being 17·9, and for Edinburgh 16.4.

Meteorology.

Abstract of Observations made in the City of Dublin, Lat. 53° 20′ N., Long. 6° 15′ W., for the Month of June, 1903.

Mean Height of Barometer, - - -	30.032 inches.
Maximal Height of Barometer (4th at 9 a.m.),	30.505 „
Minimal Height of Barometer (18th at 9 a.m.),	29.728 „
Mean Dry-bulb Temperature, - - -	55.4°.
Mean Wet-bulb Temperature, - - -	51.9°.
Mean Dew-point Temperature, - - -	48.5°.
Mean Elastic Force (Tension) of Aqueous Vapour,	.344 inch.
Mean Humidity, - - -	78.3 per cent.
Highest Temperature in Shade (on 28th). -	72.7°.
Lowest Temperature in Shade (on 14th), -	41.0°.
Lowest Temperature on Grass (Radiation) (14th),	38.6°.
Mean Amount of Cloud, - - -	64.7 per cent.
Rainfall (on 13 days), - - - -	2.494 inches.
Greatest Daily Rainfall (on 22nd), - -	.838 inch.
General Directions of Wind, - - -	N.E., N.

Remarks.

The month of June, 1903, was rendered memorable by the occurrence of torrential rains in the South of England between the

8th and the 19th, when generally dry but cold weather held in Ireland, Scotland, and the North of England. In the period named 6.17 inches of rainfall were measured at Brixton in the South of London, and amounts of over an inch were collected in the gauge on two consecutive days—1.03 inches on the 13th, and 1.15 inches on the 14th. During the same time the rainfall in the City of Dublin was only .330 of an inch, and over the greater part of Ireland still less precipitation took place. The cold weather culminated on the 20th, when the thermometer sank to 30° at Wick and Nairn, 28° at Braemar, and 27° at Lairg. On Monday, the 22nd, a complete change in the distribution of atmospheric pressure, and consequently in the weather, took place. Shallow depressions over France and the South of England gave place to high pressures, while depressions passed northwards outside the West Coasts of Ireland and Scotland. The weather, therefore, became very fine and warm in England, but fell into a cloudy, rainy and thundery state in Ireland and Scotland. In London the thermometer, which had not exceeded 53° in the shade on Saturday, the 20th, rose to 84° on both Saturday and Sunday, the 27th and 28th. In Dublin, on the other hand, in the week ended the 27th, the rainfall amounted to 2.161 inches on 6 days. As in June, 1902, winds from polar quarters prevailed throughout the greater part of the month. During the last 10 days, however, southerly winds were observed. The duration of sunshine was estimated at 167.5 hours, giving a daily average of 5.6 hours. The percentage of cloud was high for June—64.7 per cent.

In Dublin the arithmetical mean temperature (56.4°) was below the average (58.0°) by 1.6°; the mean dry-bulb readings at 9 a.m. and 9 p.m. were 55.4°. In the thirty-eight years ending with 1902, June was coldest in 1882 (M. T. = 55.8°) and 1879 ("the cold year") (M. T. = 55.9°). It was warmest in 1887 (M. T. = 62.3°); in 1896 (M. T. = 61.4°); and in 1899 (M. T. = 61.3°). In 1902 the M. T. was 56.7°.

The mean height of the barometer was 30.082 inches, or 0.165 inch above the corrected average value for June—namely, 29.917 inches. The mercury rose to 30.505 inches at 9 a.m. of the 4th and fell to 29.728 inches at 9 a.m. of the 18th. The observed range of atmospheric pressure was, therefore, only 0.777 inch.

The mean temperature deduced from daily readings of the dry-bulb thermometer at 9 a.m. and 9 p.m. was 55.4°, or 3.7° above the corresponding M. T. for May, 1903. Using the formula, *Mean Temp.* = *Min.* + (*Max.* — *Min.* × .465), the value was 56.0°, or

1.5° below the average mean temperature for June, calculated in the same way, in the thirty years, 1871–1900, inclusive (57.5°). The arithmetical mean of the maximal and minimal readings was 56.4°, compared with a thirty years' average of 58.0°. On the 28th the thermometer in the screen rose to 72.7°—wind, W.; on the 14th the temperature fell to 41.0°—wind, N.N.E. The minimum on the grass was 38.6° on the 14th.

The rainfall amounted to 2.494 inches on 13 days. The average rainfall for June in the thirty-five years, 1866–1900, inclusive, was 1.920 inches, and the average number of rainy days was 15. The rainfall, therefore, was above the average while the rainy days were below it. It is, however, to be noted that 63 per cent. of the whole precipitation for the month occurred on two days—the 22nd and 24th. In 1878 the rainfall in June was very large—5.058 inches on 19 days: in 1879, also, 4.046 inches fell on 24 days. On the other hand, in 1889, only .100 inch was measured on 6 days. In 1887 the rainfall was only .252 inch, distributed over 5 days. In 1902, 2.371 inches fell on 17 days.

High winds were noted on only 6 days, and never reached the force of a gale. The atmosphere was foggy on the 24th. A solar halo was seen on the 29th. Temperature reached or exceeded 70° in the screen on only two days—the 5th and 28th, compared with only one day in 1901, and 8 days in 1902. Lightning was seen on the night of the 28th, and thunderstorms occurred on the 14th, 24th, and 28th.

The rainfall in Dublin during the six months ending June 30th amounted to 15.054 inches on 108 days, compared with 12.344 inches on 98 days in 1902, 9.352 inches on 80 days in 1901, 13.090 inches on 114 days in 1900, 11.295 inches on 95 days in 1899, 12.115 inches on 98 days in 1898, 13.950 inches on 113 days in 1897, 7.854 inches on 84 days in 1896, 12.282 inches on 80 days in 1895, 14.361 inches on 109 days in 1894, 9.624 inches on 78 days in 1893, only 6.741 inches on 67 days in 1887, and a thirty-five years' average of 12.060 inches on 95·0 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 1.785 inches on 11 days, compared with 3.341 inches on 16 days in June, 1902. Of this quantity .760 inch fell on the 25th. The total fall since January 1 has been 17.440 inches on 90 days, compared with 15.091 inches on 84 days in the first six months in 1902, 13.670 inches on 75 days in those of 1901, 18.191 inches on 105 days in those of 1900, 19.510 inches on 95 days in 1899,

13.500 inches on 88 days in 1898, 18.125 inches on 106 days in 1897, 7.356 inches on 61 days in 1896, 14.270 inches on 67 days in 1895, 17.381 inches on 96 days in 1894, and 11.776 inches on 75 days in 1893.

Dr. Arthur S. Goff reports the rainfall at Lynton, Dundrum, Co. Dublin, as 1.54 inches on 12 days, compared with 3.08 inches on 19 days in 1902 and 1.71 inches on 13 days in 1901; the greatest daily fall being .34 inch on the 26th. The mean shade temperature was 56.4°. The thermometric range was from 44° on the 14th and 21st to 72° on the 28th. A thunderstorm occurred on the 24th.

The rainfall at Cloneevin, Killiney, Co. Dublin, was 1.64 inches on 12 days. The maximal fall in 24 hours was .66 inch on the 22nd. The average rainfall in June in the 18 years (1885–1902) was 1.833 inches on 13.3 days. The total fall at Cloneevin since January 1, 1903, amounts to 13.85 inches on 103 days, the average for the first six months of 18 years being 11.596 inches on 87.7 days.

At the Railway Hotel, Recess, Connemara, Co. Galway, the rainfall was 1.525 inches on only 9 days. On the 27th, .360 inch fell; and on the 23rd, .320 inch. Beautiful weather prevailed up to the 21st.

Dr. J. Byrne Power, F.R. Met. Soc., Medical Superintendent Officer of Health for Kingstown, Co. Dublin, reports that the mean temperature at that health resort was 55.4°, the extremes being—highest, 72.5°, on the 29th; lowest, 42°, on the 14th. At Bournemouth the mean was 57.3°, the extremes being—highest, 79°, on the 29th; lowest, 42°, on the 4th and 21st. These figures confirm the statement in former reports that the relative condition of temperature at Kingstown and at Bournemouth become reversed at or about the summer solstice, &c. The mean daily range of temperature at Kingstown was 11.1°, and at Bournemouth 16.0°. The mean temperature of the sea at Sandycove bathing-place was 54.4°. The rainfall was 1.36 inches on 12 days at Kingstown, and at Bournemouth 2.38 inches on 9 days. The total duration of bright sunshine at Kingstown was 159.2 hours, whereas it was 164.7 hours at the Ordnance Survey Office, Phœnix Park, 155.3 hours at Parsonstown, 186.2 hours at Valentia, 203.6 hours at Southport, and 179.6 hours at Eastbourne.

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Administered internally in **hyperæsthesia** of the stomach, **ulcus ventriculi, nervous dyspepsia,** and **vomitus gravidarum,** 3 to 8 grains thrice daily before meals.

In the treatment of the **ear, nose** and **throat** for all kinds of **catarrh, tuberculous ulcers of the throat, whooping cough,** etc.

In **irritable bladder, urethritis** and **hæmorrhoids.**

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Name Registered as Trade Mark.

Local anæsthetic of reliable and lasting action, absolutely non-irritating and non-poisonous.

Indicated externally in all kinds of **painful wounds,** as **burns, ulcers** of the leg, **gangrene** of the skin, **intertrigo pruritus, eczema,** etc., either as the powdered substance or as dusting powder combined with Dermatol, or in ointment form with lanolin (5 to 20%).

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In answer to an existing demand expressed by correspondence in *The Times* and other leading papers for a ***Guaranteed*** Brand of French Clarets, Sauternes, and Burgundies, Messrs. ADET SEWARD & CO. (established 1852), proprietors of the ***Vergniaud Cellars*** in Bordeaux, have placed on the British market the following wines, under their guaranteed "***V D***" Brand. Each bottle bears in addition to the Registered Brand, "V D," a reference mark of growth and quality.

In a recent report on these wines the "*Lancet*" says:—

"We find them all in good condition, and characterised by a practical absence of acidity, and a minimum of sugar and alcohol. We believe them to be pure natural wines, and it is satisfactory to note that wines of such a class can be offered at moderate prices." (See "*Lancet*" Analytical Report, Sept. 6, 1902.)

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V D 4.	St. Julien-Adet	23/-	per doz. bottles net cash.
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V D 4.	Barsac	23/-	per doz. bottles net cash.
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V D Beaune		23/-	per doz. bottles net cash.
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PERISCOPE.

THERAPEUTIC PROPERTIES OF BONE MARROW.

A SUGGESTIVE paper on some therapeutic properties of bone marrow appeared in the number of *The Journal of Cutaneous Diseases* for May, 1903. The author, Chalmers Watson, M.B., F.R.C.P.Ed., published in the *British Medical Journal* of March 22, 1902, a preliminary communication on the treatment of deafness of middle ear origin, the basis of the treatment being the use of a preparation of bone marrow. It was there pointed out that the use of this preparation in cases of chronic non-suppurative middle-ear disease was a particular application of a general theory regarding the function of the bone marrow. In broad outline this theory is that the bone marrow produces an internal secretion of vital importance in the economy; that this substance is prophylactic against the injurious action of various bacteria, which in health exist as saprophytes in different tissues; and that its defective production is liable to be followed by pathogenic action of these micro-organisms. The results of this pathogenic activity vary much in different subjects, in accordance with *the all-important factor of individual reaction.* As the main sites of these bacteria are the respiratory tract, skin, alimentary canal, and vagina, it follows that disease will be more or less directly associated with one or other of these surfaces as the main source of infection. The object of the author's present paper is to place on record the results of treatment by bone marrow of a case of lupus vulgaris in a boy aged nine years, who had suffered from a patch of lupus on the left cheek of about five years' duration. The hereditary history showed a marked proclivity to tuberculosis, five aunts and two cousins having died from tuberculous disease. The situation and character of the lesions are well shown in a series of five photographs taken before, during, and after treatment, which was carried out as follows:—

1. The part was bathed with hot water in order—(*a*) to remove the crusts as far as possible; and (*b*) to stimulate the local circulation. The operation, which was invariably carried out by the author himself, was practised daily, and took from five to seven minutes. The removal of the crusts revealed a typical lupoid surface, which was very irregular in character, being deeply pitted at some parts and markedly raised in others, and

studded with yellowish nodules, the whole surface showing a tendency to bleed. In the middle of the lower third there was a small whitish spot, which apparently represented an area of central healing.

2. The surface was then carefully dried with a clean piece of white cloth, and myelocene, previously liquefied and warmed, was afterwards applied with a pipette. About one drachm was used, this being applied in relays, the oil being rubbed into the part as thoroughly as the tenderness of the surface would allow.

The main points to which Dr. Chalmers Watson would draw attention are the following :—

1. The bone marrow contains a substance, or substances, of distinct therapeutic value in the treatment of some skin affections.

2. The bone marrow employed is not "red marrow," so-called, but the general marrow from the shaft of the long bones. The preparation employed is an ethereal extract termed "myelocene," prepared for the author in the manner described in the *British Medical Journal*, March 20, 1902, by J. F. Macfarlane & Co., Edinburgh.

3. The utmost care is necessary in the selection and preparation of this substance, and much investigation is yet required before a fully reliable standard preparation is permanently available. Equal care and attention are called for in the local application of myelocene to abraded surfaces.

4. Myelocene is not antiseptic in the ordinary sense of that term : it cannot be applied to an abraded surface in the manner of an ordinary ointment. This difficulty may be overcome by the addition of other substances with known antiseptic properties—*e.g.*, boric acid.

5. A study of the facts here recorded alongside those previously described, suggests that the full elucidation of the problems presented will require combined investigation on the part of physiologists, pathologists, and clinicians, attention being particularly directed to the question of general and local immunity.

VACCINATION AFTER SMALL-POX.

Under the above title the *British Medical Journal* of January 31, 1903, published some facts proving the susceptibility to vaccination of individuals who had previously suffered from small-pox. In the *Australasian Medical Gazette* for May 20, 1903, Dr. Ernest Sydney Hawthorne, L.R.C.P.I., F.R.C.S.I., of Mudgee, New

South Wales, publishes the following facts, observed by himself whilst House Physician to the Small-pox Hospital in Liverpool, England, during the great epidemic of 1893 and 1894. During his tenure of office there Dr. Hawthorne had under his care upwards of 400 cases, so that there were ample opportunities of studying the disease from every standpoint. As an experiment he first began vaccinating with pure calf lymph all patients admitted suffering from variola; but later he vaccinated all such cases, as a matter of duty, with the following result:—In the unvaccinated, and during the early stages of prodromal rash and papular eruption, vaccination was performed on the arms or other suitable part with pure calf lymph. If the vaccination was successful the case was converted from a very serious and probably fatal one into a harmless and modified variola. The disease ran through its usually severe stages until the time of pustulation, when like a charm the opaque vesicles would become less tense, wrinkle, and finally desiccate without any sign whatever of secondary fever. On the other hand, the vaccination eruption would pass through its stages with the usual exactitude and severity. Although the variola virus has gained two or three days' start over the vaccinia virus, the latter overtakes the former and becomes pustular in time, as it were, to prevent the secondary fever, and thus abort the attack. His failures were very few, and those he attributed to inferior quality of the lymph used or too late application of it to the patient, as when vaccinating in the commencing vesicular or vesicular stages no modification of the variola whatever resulted, and the vaccination did not take. There is no keener battle to be witnessed than that between the virus of small-pox and vaccinia. If the latter is successful, on the eighth day it stands alone, triumphant, angry, the victor, surrounded by the former, vanquished and annihilated.

CONGENITAL SINGLE KIDNEY.

Dr. Ramon Guiteras, of New York, has (*St. Louis M. and S. Jour.*) placed three cases of congenital single kidney on record. The first case was that of a labourer twenty-one years old, on whom he operated for tubercular disease of the kidney. On the day following the removal of the deceased kidney he passed ten ounces of urine. After this not a drop passed either spontaneously or by catheterisation. He died on the eighth day after the operation. He remained clear in his mind up to the day before his death. There were no uræmic convulsions. The autopsy revealed the

absence of both kidneys, the left one having been removed. There is no reference made to the presence or absence of the right ureter in this case. Five months after, on the 24th of April, 1902, the second case came to hospital. The patient was a fireman, thirty years old. He was operated on for purulent distention of his left pleura. He died two weeks afterwards of dyspnœa. The autopsy revealed congenital absence of the right kidney and ureter. The third case was that of a labourer who entered hospital on the 21st of August, 1902. He died two days afterwards of typhoid. The autopsy revealed the congenital absence of the left kidney and ureter. Morris considers that one kidney is congenitally absent in 2,400 bodies.

PARTIAL SYMPHYSEOTOMY.

DIEHL (*Münch. med. Woch.*) reports a case in which a narrow pelvis prevented the passage of a fœtal hand after cephalotripsy. The upper half of the symphysis was then cut through, and the head passed easily.

CORYZA.

BRAND'S remedy, frequently inspired, sometimes aborts a threatened attack of coryza. It consists of carbolic acid and solution of ammonia, each five parts, alcohol two parts, and distilled water fifteen parts, mixed. Or by a single intranasal spraying with the following:—Ichthyol, five parts, alcohol and ether, fifty parts each, by weight.—*Rev. Méd. de la Suisse.*

FIFTH INTERNATIONAL CONGRESS OF DERMATOLOGY.

THE Fifth International Congress of Dermatology will be held in Berlin from the 13th to the 17th of September, 1904, under the presidency of Professor Lesser. The subjects chosen for debate are:—(1) The Syphilitic Affections of the Circulatory Apparatus; (2) The Skin Affections in Errors of Metabolism; (3) Epitheliomata and their Treatment. The General Secretary is Dr. O. Rosenthal, Berlin, W., Potsdamerstrasse, 121 G. The Secretary for Great Britain is Dr. Arthur Whitfield, 21 Bentinck-street, Manchester-square, London, W.

HOUR-GLASS STOMACH.

IN a recent paper on diseases of the stomach Dr. Moynihan, Leeds, writes that he does not think there is any ground for thinking that hour-glass contraction of the stomach is ever congenital. There is no inherent probability in its being so, but it lacks proof.

He considers that the condition is acquired. It is caused by—(1) perigastric adhesions; (2) ulcer, with local perforation and anchoring to the adjoining parts; (3) chronic ulcer at or near the middle of the organ; (4) malignant disease.

ORBITAL CELLULITIS FOLLOWING SCARLATINA.

Two cases of this uncommon complication are reported by Dr. Burton K. Chance. The course in each was rapid, and terminated fatally—one child dying on the seventh day after the child had become necrotic. In both cases serous infiltration was found; no pus was present.

PLEURITIS WITH EFFUSION.

Dr. Schigayeff (*Rons. Med. Viest.*) treats pleuritic effusion, after the microscope had shown pus in the fluid, by the subcutaneous injections of pleuritic fluid obtained from the same patient. The injection was given with a Jacquet syringe. The first injections were made in the interscapular region, the latter in the axillary line. The dose varied from one to four cubic centimetres. The patient usually felt better after the second injection, temperature fell, urine increased, and the exudates were absorbed.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Soluble Salts of Manganese.

Recent experiments have afforded increased evidence that manganese possesses useful qualities in the treatment of debilitating diseases associated with anæmia. It appears, however, that the nature of the combination in which the manganese is employed exercises an important influence upon the therapeutic effects. The preparation known as manganese dioxide, which has been used to some extent in the past, and often in a very impure condition, is quite insoluble in water, and only very slightly soluble in dilute acids. Its administration, therefore, has frequently been unsatisfactory. Some experiments conducted in the Wellcome Chemical Research Laboratories, with a view of preparing a soluble salt of manganese of a stable character, have proved highly satisfactory. As a result of these investigations, Messrs. Burroughs, Wellcome & Co., of London, Sydney, and Cape Town, have been able to manufacture, and are now issuing, a soluble citrate of manganese. In addition to this preparation, they are manufacturing two soluble compounds of manganese and iron. In the treatment of anæmia in which iron alone has failed, these new

compounds appear to be admirably adapted to the needs of those practitioners who, instead of passing directly to the use of manganese, prefer to give intermediately a mixture of the two metals.

Manganese Citrate (Soluble). "Wellcome" Brand.—This organic combination contains about 12 per cent. of manganese. It is in the form of nearly colourless scales, which are readily soluble in water. Dose: Three to ten grains, after food. The citrate is issued in bottles containing 1 oz. and 4 oz. Manganese citrate (soluble) is also issued as a "tabloid" product, in two strengths—viz., gr. 3 (0.194 gm.) and gr. 5 (0.324 gm.), in bottles of 25 and 100.

Manganese and Iron Citrate (Soluble). "Wellcome" Brand.—This is a scale preparation containing about 7 per cent. of manganese and 14 per cent. of iron in organic combination, and is readily soluble in water. Dose: Three to ten grains, after food. It is issued in bottles containing 1 oz. and 4 oz. Manganese and citrate (soluble) is also issued as a "tabloid" product, in two iron strengths—viz., gr. 3 (0.194 gm.) and gr. 5 (0.324 gm.), in bottles of 25 and 100.

Manganese and Iron Phosphate (Soluble). "Wellcome" Brand.—This scale preparation contains about 7 per cent. of manganese and 14 per cent. of iron, and is readily soluble in *warm* water. Dose: Three to ten grains, after food. It is issued in bottles containing 1 oz. and 4 oz. Manganese and iron phosphate (soluble) is also issued as a "tabloid" product, in two strengths—viz., gr. 3 (0.194 gm.) and gr. 5 (0.324 gm.), in bottles of 25 and 100.

"Soloid" Romanowsky Stain (Leishman's Powder).

This is the most recent addition to the useful series of microscopic stains issued by Messrs. Burroughs, Wellcome & Co., Snow Hill Buildings, London, E.C., under the "soloid" brand, and it presents a convenient means of employing Leishman's modification of Romanowsky's stain. The strength of the soloid is 0·015 gm. (gr. 0·231). One "soloid" product is to be dissolved in 10 cc. of pure methyl alcohol. A few drops of the solution should be run on to the blood film, and allowed to remain four or five minutes. Then double the volume of distilled water is to be dropped on to the film. This will bring out the red tint in the corpuscles, and a blue colour in the nuclei. After another two minutes staining the film may be washed in distilled water, dried in air, and mounted in xylol balsam. "Soloid" Romanowsky stain is issued in tubes containing six.

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Pepsin (Pure)	... ...	***8 ,,***
Pancreatine (Pure)	...	***6 ,,***
Veg. Ptyalin or Diastase,		***4 drachms.***
Lactic Acid	... ...	***5 fl. ,,***
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Note on Formula. The digestive strength and purity of each drug are tested with the utmost accuracy; and it would be impossible for any chemical establishment to produce a similar preparation without elaborate plant and years of experience. The digestive strength of Pepsin, as commercially known, varies from 500 to 4,000, and like quinine only has medicinal value when proved by analysis. Prof. Attfield says of LACTOPEPTINE that the pepsin is much superior to that ordinarily used in medicine, and that as regards the other ingredients they are the best that can be obtained.

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General Debility, Loss of Appetite, Constipation, Morning Sickness, Infantile Diarrhœa, and other Diseases of the Digestive Function.

Dose, 10-15 grs.

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